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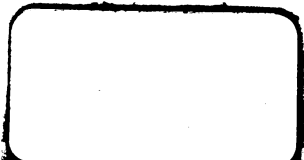
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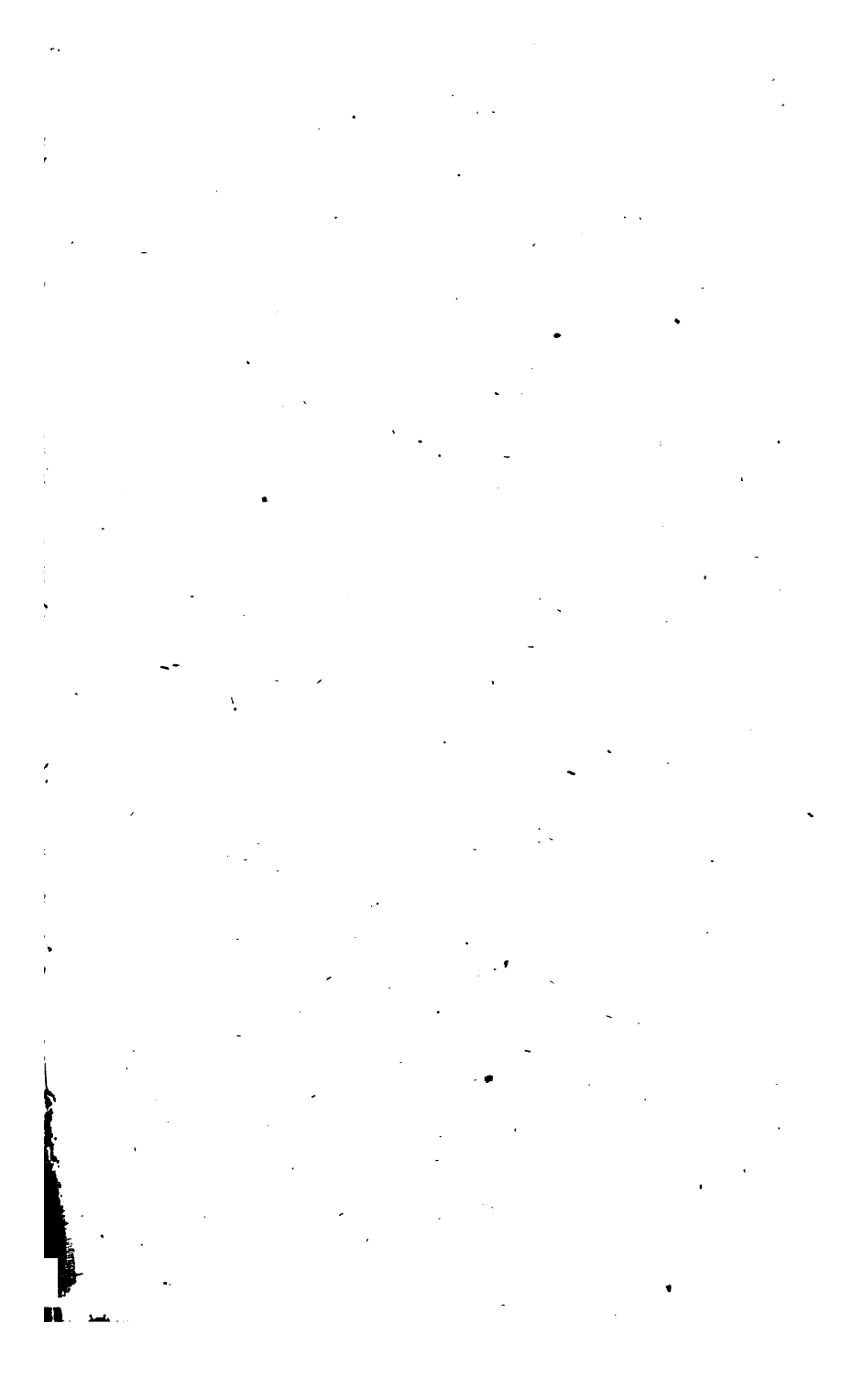
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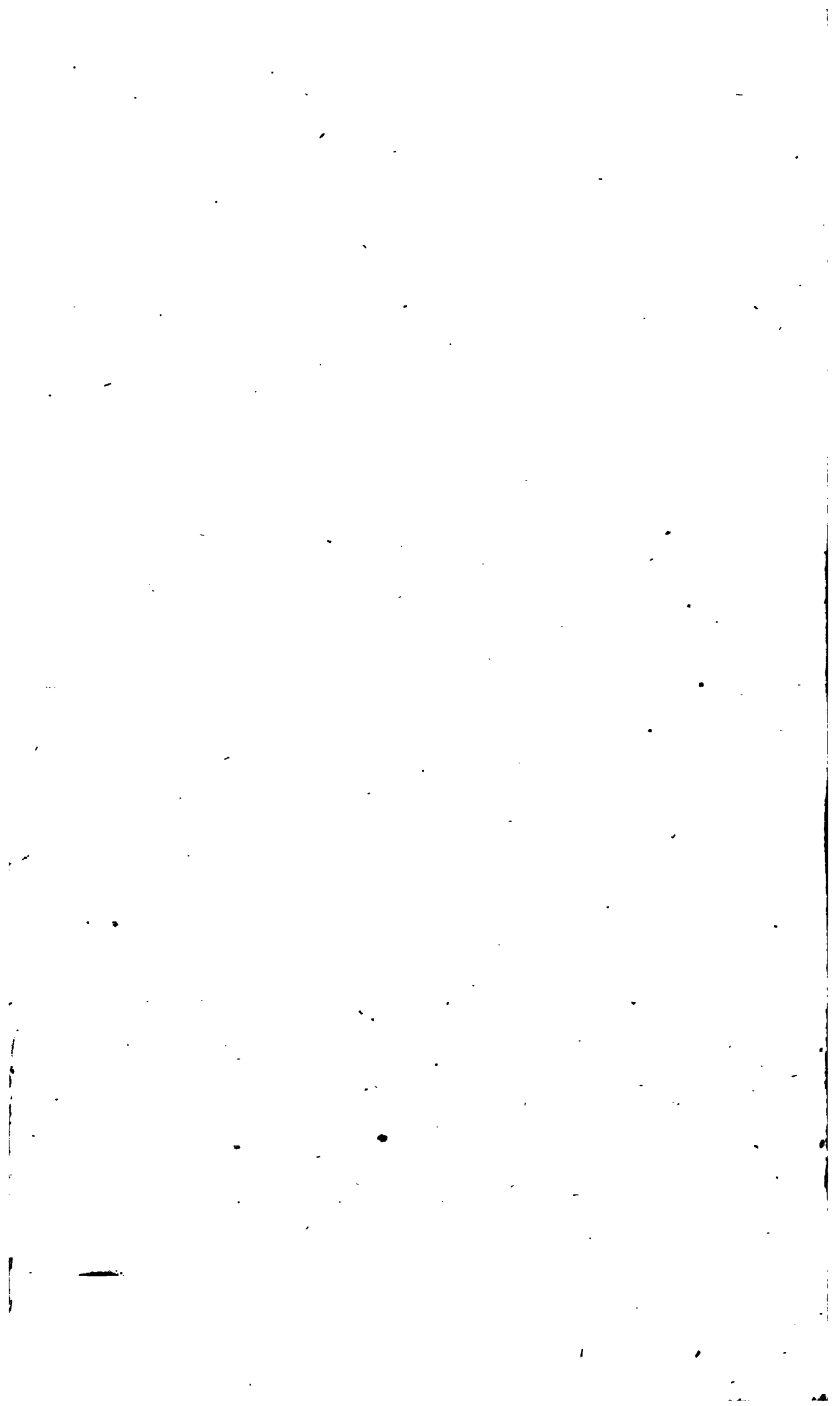
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A
SHORT TREATISE
ON
HORTICULTURE:

EMBRACING DESCRIPTIONS OF A GREAT VARIETY OF

*Fruit and Ornamental Trees and Shrubs,
Grape Vines, Bulbous Flowers,
Green-House Trees and Plants, &c.*

NEARLY ALL OF WHICH ARE AT PRESENT COMPRISED IN THE COLLECTION

OF THE

LINNEAN BOTANIC GARDEN,

At Flushing, near New-York.

WITH

Directions for their Culture, Management, &c.

BY WILLIAM PRINCE,

PROPRIETOR OF THE ESTABLISHMENT,

C. M. of the Linnæan Society of Paris, of the Horticultural Society of
London, and of the Imperial Society of the Georgofili at Florence, &c.

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Southern District of New-York, ss.



BE IT REMEMBERED, that on the 18th day of April, A. D. 1828, in the fifty-second year of the Independence of the United States of America, *William Prince*, of the said District, hath deposited in this office the title of a book, the right whereof he claims as author, in the words following, to-wit:

“A Short Treatise on Horticulture: embracing descriptions of a great variety of Fruit and Ornamental Trees and Shrubs, Grape Vines, Bulbous Flowers, Green-House Trees and Plants, &c. nearly all of which are at present comprised in the collection of the Linnæan Botanic Garden, at Flushing, near New-York; with Directions for their Culture, Management, &c. By *William Prince*, Proprietor of the Establishment, C. M. of the Linnæan Society of Paris, of the Horticultural Society of London, and of the Imperial Society of the Georgofili at Florence, &c.”

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ERRATA.

Page 35, line 26, for "as," read 'for.'

Page 36, line 5, for "permantly," read 'permanently.'

Page 44, line 7, from bottom, for Oxford "county," read 'township.'

Page 53, line 30, for "Næbæcker," read 'Næbæcker.'

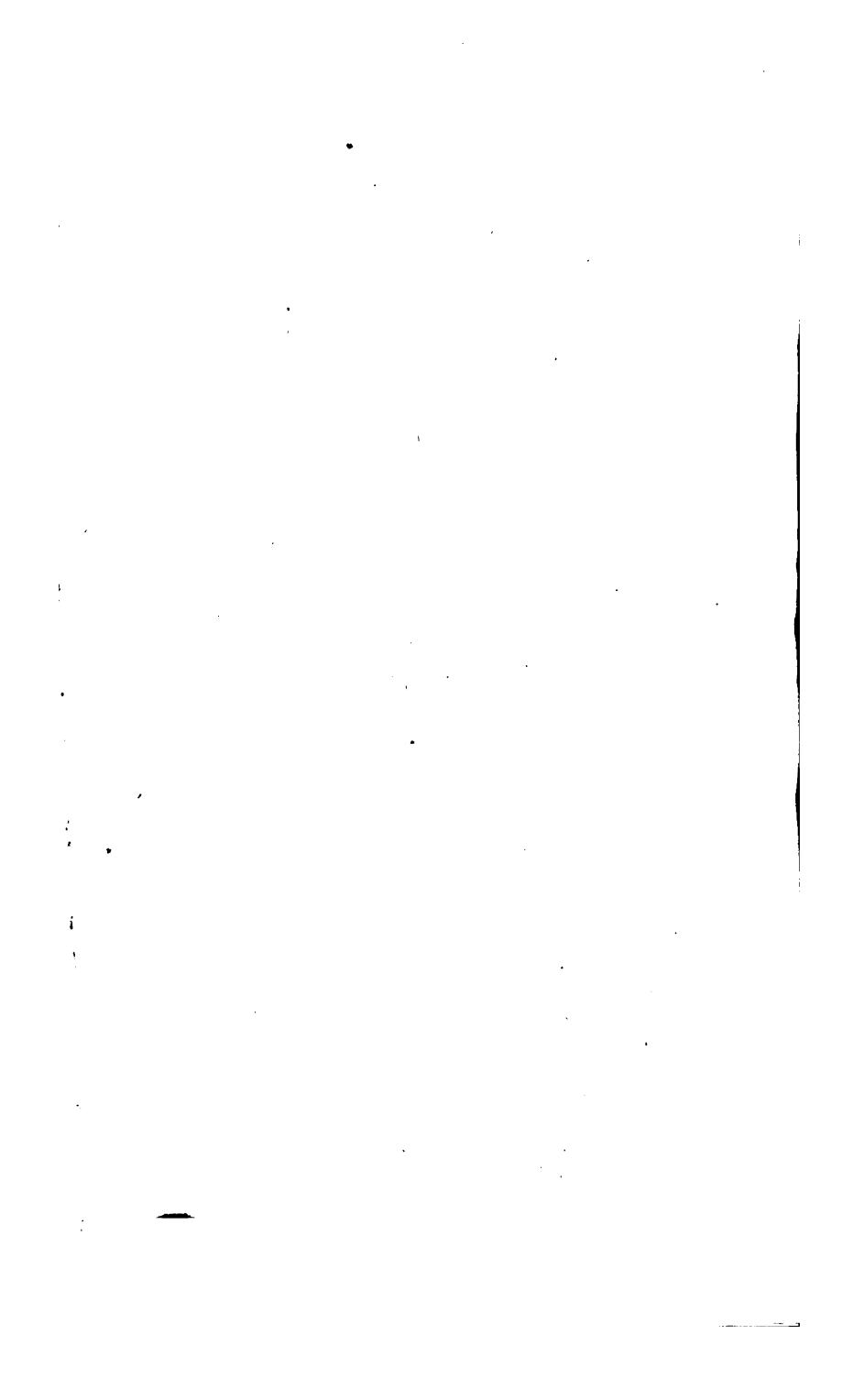
Page 54, line 25, for "Menuier," read 'Meunier.'

Page 64, line 23, for "Gommier," read 'Gromier,' and at line 25, for "khefner," read 'khefner.'

Page 66, line 19, "Fromanté," it is now supposed, should not be inserted as a synonym of Meunier, but is believed to be a synonym of Gros Muscadet in the 13th line.

Page 83, line 5, from bottom, for "Arbour," read 'Arbor,' and for "varietica," read 'species.'

Page 120, line 25, for "flowers," read 'seed vessels.'



P R E F A C E.

THE object of this small publication is merely to give a few brief remarks as to the Culture of Fruit Trees, &c. by throwing together some of the leading rules, whose adoption has proved most successful; considering that it would be satisfactory as an accompaniment to the Catalogues, and might aid those who are ignorant on the subject—but it is not to be considered as addressed to the connoisseur of Fruits, to whom the most of its details must already be familiar.

It was not intended to annex any descriptions of Fruits, as the Author is now engaged in preparing a copious work on that subject; but, in the course of the arrangement, descriptions have been added of many kinds which have recently been brought into notice, and of a considerable number of others, which, although long cultivated, are of acknowledged celebrity. The numbers attached to the respective Fruits refer to their enumeration in the last edition of the Author's Catalogue.



A SHORT TREATISE

On the Management of Fruit and Ornamental Trees, Shrubs, Plants, &c. with cursory Descriptions of some which are of recent introduction and acknowledged merit.

THE Proprietor of the LINNEAN GARDEN, in supplying the orders for trees, &c. from remote parts of the United States, having frequent applications for directions for their management to accompany them, concludes that the following remarks, though brief, will be found acceptable.

Season for Transplanting.

Spring is the season when we find the most pleasure in making our rural improvements, and from this circumstance probably it has become the most general season for planting trees—but experience has proved the fall planting to be the most successful, especially in those parts of the United States which are subject to droughts, as the trees planted in autumn suffer little or none from a drought, when those set out in spring often perish in consequence of it.

Notwithstanding, with regard to those fruits that have been originally brought from warmer climates—such as the peach, apricot, nectarine, and almond, which are natives of Persia, Armenia, &c.—it is necessary for us to consult the operations of climate also, and from a consideration of these attendant circumstances, I have come to the following conclusion:—In localities south of New-York, the fall season is preferable for transplanting *all trees*—north of New-York, the fall is preferable only for the apple, pear, plum, cherry, quince, and all other trees of northern latitudes; whereas the spring is to be preferred for the peach, apricot, nectarine, and almond, which, for the reasons before stated, might, during severe winters, suffer from the intensity of the frosts. Still I do not mean to assert, that trees of these

kinds are certain to be injured by the winter, as in very many seasons they are not in the least affected, still they are exposed to vicissitudes which may or may not occur. Many gentlemen, however, of excellent judgment, make their plantations in the fall, which only serves to prove, that even in the most intelligent minds a diversity of opinion exists.

Trees, &c. on their arrival at the place of destination.

As soon as the trees arrive at the place where they are to be planted, let a trench be dug in cultivated ground, the bundles unpacked, and the roots well wet, and immediately covered with earth in the trench, observing to make the earth fine that is spread over them, so as not to leave vacancies for the admission of air to dry the roots—it having been found by experience, that the thriftiness of trees, the first season after transplantation, depends much on the fine fibres of the roots being kept moist, and not suffered to dry from the time they are taken up until they are replanted—a precaution which is always attended to with respect to the trees sent from the Nurseries of the Proprietor, as the roots are invariably kept moist from the time they are taken up until they are packed ready to be shipped. Their success, therefore, must depend principally on the subsequent management on their arrival at the place of destination; for if, when the bundles are unpacked, the trees are carelessly left exposed to drying winds, the young fibres of the roots must perish, and the trees, if they live at all, cannot thrive the first season, as they can receive little or no nourishment until those fibres are replaced.

Manner of Planting.

Let the holes be dug somewhat larger than is sufficient to admit the roots in their natural position, and of sufficient depth to allow the tree to be placed two or three inches deeper than it was before transplanting—take care to cut off any wounded parts of the root, and to reduce the top full one third, by shortening the branches or thinning them out. Let from two to four shovelsful of well rotted stable manure, in proportion to the size of the tree, be incorporated with the earth, and the whole made fine previous to filling it in; and, during the operation of filling in the earth, let the tree be several times shaken, in order that the soil may be admitted

among the finer roots; and when completely filled in, let the ground be well trodden down, and finish by making a hollow or basin around the tree, to catch the rain and convey it to the roots, or to receive the watering which it will be necessary to give it, should the season prove dry.

To cause the Trees to thrive.

The ground where they are planted must be kept cultivated—young trees will not thrive if the grass is permitted to form a sod around them; and if it should be necessary to plant them in grass ground, care must be taken to keep the earth mellow and free from grass for three or four feet distant around them, and, every autumn, some well rotted manure should be dug in around each tree, and every spring the bodies of the apple, pear, plum, and cherry trees, and others that it is particularly desirable to promote the growth of, should be brushed over with common soft soap, undiluted with water—this treatment will give a thriftiness to the trees surpassing the expectation of any one who has not witnessed its effect. Should the first season after transplanting prove dry, regular waterings will be necessary; as from a neglect of proper attention in this respect, many lose a large portion of their trees during a drought.

Soil, Culture, &c.

APPLES.

Rich strong loams are the soils most conducive to the growth of the apple—the roots of apple trees being more horizontal than perpendicular, they require a soil less deep than the pear, and it is on this account that moist soils are more requisite for the apple, as the roots, extending themselves near the surface, are not benefited by the moisture which is found at a greater distance from the surface of the earth. Apple orchards will, however, succeed on any soil, except a quick sand or a cold clay, if proper attention is paid to keeping the ground in constant cultivation, and manure is regularly dug or ploughed in around the trees. Old well rotted stable manure, decomposed vegetable mould from swamps or woods, and river mud, have been found most suitable for this purpose.

APPLES FOR CIDER.

Although it is much to be doubted whether any foreign apples are to be found, from which cider can be made to surpass that of several of our native fruits—still, as the enlightened President of the Horticultural Society of London, Mr. Knight, has brought forward several which he supposes will for this purpose surpass all others, and as the specific gravity of the must is looked upon by many intelligent gentlemen to be the point on which superior excellence for this object mainly rests, every enterprising farmer should at least reduce the thing to experiment in a manner satisfactory to himself. Among those enumerated by Mr. Knight are the Grange, specific gravity 1079—the Downton Pippin, the Foxley, and the Yellow Siberian, 1080—and the Siberian Harvey, 1091—the heaviest must of the old cider fruits appears not to have exceeded 1079. Some well informed gentlemen consider that these new varieties of Mr. Knight will be richer in saccharine matter when reared in this country than they are in England; and that the cider will be of such strength as to prevent danger from fermentation. A correspondent of much intelligence on the subject, seems also to consider that our apples are only better, because they have a warmer and a dryer climate to mature the juices; perhaps on this latter ground some parts of France might claim a preference, when in fact it is well known her apples are inferior to those both of England and America. In conclusion, it seems proper to recommend that the farmer, in planting his orchards for cider, should select only the choicest of both countries, for in this way he will be sure, even if some of them do not fully realize his expectations, at least no part of his collection can fall very far short of it.

I will now proceed to describe a few varieties of apples which have recently come into notice.

119. *Alexander*.—This apple, which has attracted much notice in England, is of recent introduction to this country. It is extremely beautiful; has in some instances measured 16 inches round; and notwithstanding its great size seldom

falls from the tree if sound ; it is in eating from October to January, and the tree produces well. It is esteemed more particularly as a fine sauce apple.

Kircsskoi.—An apple by the above name is mentioned in Morse's Geography as being cultivated in Russia, and weighing 4 lbs. I have made many attempts to ascertain if a fruit of this name and description existed there, but as yet without a satisfactory result. I am inclined to think the apple referred to is the same as the "Menagere," which has been sent to me as the largest of all apples known in the north of Europe. To what weight this fruit has attained I am not fully apprized ; but as our native apple, the New-York Gloria Mundi, or Monstrous Pippin, sometimes called Ox Apple, has been publicly exhibited weighing 35 oz., which is about 3 lbs. Troy weight, it may be possible that an apple exists which, in extreme cases, may weigh 48 oz., or 4 lbs. Troy, and thus verify the statement of Mr. Morse, who doubtless quoted his information from some European author, whose publication has not met my eye.

129. *Menagere.*—Of this apple I have received no other information than that previously referred to, which is from a gentleman residing on the border of the Rhine, whose opinions and statements I consider as the highest authority. He mentions, as I have already remarked, that it is the largest apple known in the north of Europe.

149. *Transparent Moscow.*—This apple, which is beyond doubt the same that Mr. Morse has mentioned under the title of "Nalivui," I have succeeded in introducing, and have already increased it, and disseminated it throughout our country. It is said to have been originally from China, whence it was introduced to Moscow, and to be most remarkable for its beauty and transparency. In fact, its claims on these points seem to be generally conceded ; and, therefore, although its introduction has been so recent, that I have not yet seen its fruit, still I doubt not but all that is anticipated from it will be fully realized. There are several other apples celebrated for their transparency, viz.—Transparent Zurich, Transparent Codlin, and the Transparent, or De Glace.

2. *Sinequanon.*—This title I gave myself to the most pleasant flavoured early apple I have ever seen, perhaps not excepting the "Yellow Harvest ;" from the belief that those who become familiar with it, will deem it an *indispensable* appendage to their orchards. It is nearly green when full

ripe, and in eating about the same time as the other apple just referred to. For the table, or for cooking, I consider it not surpassed by any of its season. The original tree stands in a field about two miles from my residence, and is a wilding.

PEARS.

These require a deep light soil, in which their perpendicular roots can easily penetrate—clay, compact, cold, and wet soils, do not suit their growth. When the roots of the pear penetrate so as to reach the water, the branches become long and slender, and the leaves narrow, changing speedily to a yellowish appearance, and the ends of the branches often perish, as if burned. With regard to manuring and keeping the ground cultivated, the pear requires the same attention as that prescribed for the apple. This tree is, however, subject to one malady peculiar to itself, commonly called the *Fire Blight*, or *Brulere*, which attacks trees in the most flourishing state, generally commencing at the top, or extremity of the branches, and extending downwards. This is caused by a stroke of the sun, which extracts the sap from the uppermost branches of the tree, or from such as are most exposed to its influence, with more rapidity than it can be replaced; or from powerful rays of the sun heating the bark to such a degree as to arrest or nullify the progress of the sap. It is therefore recommended to plant trees in pear orchards much closer than in those of the apple. The only remedy against these attacks is to immediately saw off the branches one or two feet below where the blight extends, in which case they generally revive.

The pear will flourish near the sea-coast, where no other fruit will succeed, except the Sea-side Plum; and pear-trees may often be seen even on a sandy beach, exposed to every storm, and to the perpetual operation of the breezes of the ocean. Under such circumstances their growth however is proportionably diminutive.

4. *Early Green Chisel*.—This is a green pear of middle size, very full of juice, and the finest flavoured pear of its season; it ripens about the end of July.

9. *Jargonelle*.—This is a fine fruit, ripening shortly after the preceding; it is of a green colour, with a little russet on the side next the sun, and has a long neck; it bears remark-

ably well, and is sent in large quantities to the New-York market. In France it is called Cuisse Madame.

42. *Autumn Bergamot*.—This pear is rather of a small size, but is one of the finest flavoured melting pears; it is in perfection in October.

52. *Crasanne Bergamot*.—This is an extremely fine fruit; the flesh is very tender, and full of delicious juice; it is one of the finest pears in eating from November to January.

86. *Colmar*.—Is a fine rich pear, but is not so great a bearer on a standard as on a quince stock; it is in perfection about January, and is frequently called Winter Bergamot; it is highly esteemed.

74. *Virgouleuse*.—This is a fine melting pear, full of rich juice when fully matured; ripens in December and January.

49. *Virgalieu, or St. Michael*.—This delicious pear is known in Europe and America by no less than twelve names, a circumstance that generally proves that a fruit has been held in great esteem. It is of a fine orange colour, and when left to ripen on the tree, has often a touch of red next the sun. It is a delicious melting pear; highly valued for its excellence of flavour; is of a good size, fair and handsome, and ripens from September to November, when gathered from the tree and laid on shelves. There are several new varieties of this pear which have originated at Long-Island, and are highly esteemed.

57. *Seckel*.—This incomparable little pear, which is now becoming so widely disseminated in our country and abroad, originated on the farm of Mr. Seckel, about four miles from Philadelphia. It is at least equal to any European pear I have met with, and is by far the highest flavoured pear that has originated in this country. The fruit is of a russet colour, with a red cheek next the sun, and grows in clusters of from two to seven in each. I have noticed, that much of its fine spicy flavour is contained in the skin, and in eating it this should not be taken off. It grows more slowly than any pear tree I am acquainted with—and, in fact, at maturity, forms a tree of only moderate size, but peculiarly compact and regular in its form. Although this pear has been figured in the Transactions of the Horticultural Society of London, and both European and American gentlemen conversant on the subject have stated, that no fruit similar to it existed in Europe, still there is a pear which has been long

cultivated in France and England, and almost every other country in Europe, so *extremely similar* to it, that I venture to assert, that beyond all doubt, it is the *parent of the Seckel*. The pear to which I refer is the "Rousselet de Rheims, or Petit Rousselet," called also in Europe "*the Musk, or Spice Pear*." The growth of the respective trees is similar, and the fruit so much alike, that persons have mistaken them for each other. The difference consists in the part of the fruit next the stem being more pointed in one than the other, and in the spicy flavour of the Seckel being much higher than that of the Rousselet de Rheims. The colour and size are much the same.

11. *Skinless*.—A tree of strong growth and very productive; fruit of medium size, pyriform, green and yellow, with some touches of red; melting and high flavoured; ripens in August.

75. *French St. Germain*.—This is a fine dark green melting pear, very juicy, and of delicious flavour; but the tree in some parts of the country does not produce well, and the fruit is apt to crack. They should be gathered in October, and laid singly on shelves, where they will continue to ripen in succession during the whole winter.

72. *Prince's St. Germain*.—This pear is a seedling of the French St. Germain, impregnated by the St. Michael, and was originated from seed by myself. It is of a larger size than either of its parents, of a yellowish green colour, with a red cheek. Its flavour is similar to that of the French St. Germain, but it has the advantage of always being a perfectly fair fruit, and a great bearer. They should be gathered in October, and laid separately on shelves, where they will gradually ripen for several months. Next to the Seckel, I consider this as the finest table pear our country has ever yet produced.

158. *Franchépanne*.—A pear of medium size, and oblong, of a fine yellow colour; half melting, sweet and sugary—finely flavoured; ripens end of October.

101. *Imperial Oak Leaved*.—A spreading tree, with fruit of medium size, resembling the Virgouleuse, to which it is rather inferior in quality. The tree is remarkable for its luxuriant foliage, and the fruit matures during the winter months.

63. *Boston Eternéne*.—This tree bears the characteristics of a native fruit, and without doubt originated in the vicinity of Boston, where it has acquired much celebrity. It bears

well when at an age sufficiently mature, and the fruit is about the size and shape of the French St. Germain, and by some considered equal to that and the St. Michael in flavour. It is yellow on one side, and red on the other, and ripens near the same time as the St. Michael. It is frequently called at Boston "L'Epergne," and has in consequence been supposed by many to be the French fruit of that name, until I detected the error, and explained it in my last Catalogue.

30. *English Red Cheek*.—This pear, cultivated at Rhode-Island under the above name, whence it was brought to Long-Island, is a bell shaped fruit, of a beautiful yellow colour, with a red cheek. It is not quite as large as the St. Michael or Virgalieu, but is considered a very fine fruit, and bears well; it ripens in September.

61. *Rushmore's Bon Chretien*.—This is a native pear of very large size, and one of the greatest bearers. The growth of the tree is particularly strong and rapid, and it soon arrives at mature bearing. When ripe it is a pale yellow, with a red cheek. The fruit is *breaking* when ripened on the tree, but becomes *buttery* when matured in the house. It is considered but a tolerable table fruit, but when this is taken in connexion with its being a most excellent pear for cooking, and ripe at a season when few other pears are so, and producing very abundantly, it may be considered as one of the most useful pears in a general view; it ripens in succession, from the end of August to the end of September.

78. *Spanish Bon Chretien*.—This is a good winter pear for baking or preserving; it is not so large as the common Pound Pear, but when ripe changes to a yellow, with a red cheek, which gives it a much finer appearance for a market fruit, and it is also more delicate, and possesses less of the roughness and astringency of the former; keeps till April and May.

73. *Pound Pear*.—This is one of the largest pears known, and on vigorous trees, in good soil, attains to an immense size. They are green, with a red cheek, when one side is exposed to the sun; they are good pears for baking or preserving, and become much better towards spring than when gathered from the tree; keeps till May.

141. *Turkish Bon Chretien, or B. Turc*.—This is the most beautiful of all the Bon Chretien pears, and the largest in size. It is also said to be superior to them in flavour, although it partakes of the general characters of that class.

142. *Calebash*.—A very large pear, of good quality; it is a breaking pear, and ripens in September and October.

157. *Forty Ounces*.—This is said to be the largest fruit of the pear kind known in France and the north of Europe; its principal use is for baking or preserving. A pear was exhibited in this vicinity, during the season of 1826, weighing 40½ oz., which was of the Bon Chretien family.

177. *Red Flowering, or Sanguine d'Italie*.—The blossoms of this pear are red, and of singular appearance; the fruit has within the resemblance of the Blood Peach, being marbled with red. It is a breaking pear, and esteemed as a curiosity.

34. *Striped Dean*.—A long pear, striped lengthwise white and green; it is a pleasant flavoured fruit, and a great curiosity; ripe in September.

95. *Franceval*.—A very large flat shaped pear, of a yellowish green colour, suitable for cooking from October to December. I have had this pear to weigh 17½ oz.

151. *Double Flowering*.—This tree, in addition to its flowers forming a great ornament, produces also pears of a very large size, proper for cooking; they are yellowish in colour, and keep till February.

194. *Bartlett*.—This pear weighs about 10 oz. when at full size, shaped like a Bon Chretien, very yellow, and slightly tinged with red on one side; quite juicy, and by many considered a first-rate fruit. It is not, however, equal in flavour to the Seckel, or even to the Boston Epergne, but its size and beauty render it greatly admired. It much resembles in flavour and consistence the St. Michael, and is said to command a high price at market. It is no doubt a native, and appears to have originated in the vicinity of Boston; and it does not seem at all strange that many fine new pears should have originated there, as that city, and its environs, has for a long period been inhabited by a great many gentlemen extremely intelligent on the subject of Horticulture, who took much pains, at an early date, to introduce the choicest fruits, and particularly the finest varieties of pears, of which fruit they are skilful connoisseurs.

The following are among the fine pears which have been originated in the Netherlands, and other parts of Europe, and which have recently been brought into notice by the London Horticultural Society, &c.

190. *Urbaniste*.—A pear nearly globular, the colour yellowish green, flavour similar to that of rose water, the fruit large, and ripens in November.

167. *Marie Louise*.—Fruit of a pale yellow colour, middle size, and fine flavoured; the flesh is melting, and very juicy; it is at maturity from November to December.

132. *Beurré Napoleon*.—Fruit exceedingly fine, melting and juicy; in size not quite as large as the foregoing; ripens from November to December.

131. *Beurré Knox*.—Fruit yellow, of large size, and pear shaped, flavour excellent; ripe from November to December.

156. *Florelle*.—Fruit of nearly a scarlet colour, with very small dark spots, shape pyriform; it is of middle size, fine flavour, and greatly esteemed; ripe in November. This pear is called in some publications Forelle, and the Poire Tuite is by some considered to be the same.

125. *Beurré d'Ahremberg*.—A very fine greenish pear, form and size of the Beurré Gris; it is considered by some as the best of all the Beurré pears.

123. *Beurré Coloma*.—A pear of medium size, of excellent quality, and ripe in September.

173. *Passé Colmar*.—This is one of the pears reared from seeds by Professor Van Mons. It is between buttery and melting, and very sweet; fruit of good size, and pyriform, but particularly broad towards the eye. It is a melting pear of exceeding fine properties, and may by proper attention be matured for the table from January to April. The tree is abundantly productive.

133. *Beurré Rance*.—This is also called Hardempont de Printems, and is another of the fruits reared by Professor Van Mons. It is a pale green pear, of large size, and rather rough skin, and the tree is very productive; it is not usually fit for the table till March or April, and will continue ripening till May; its flesh when thus matured approximates to the Brown Beurré, so universally esteemed as an autumn fruit.

120. *Beurré Cassimont*.—This is one of the new pears reared from seeds by Professor Van Mons, of the Netherlands. The fruit is crimson and yellow, fine flavoured, very beautiful, and of good size; ripening in October. I take this to be the same pear sometimes called at Boston "Cassimont," which variation may have arisen from a misreading of the name in the original invoice, as no such name as

the latter is found either in the Catalogue of the London Horticultural Society, or in those of other eminent establishments in Europe.

PEACHES.

The preferable soil for a peach orchard is a rich sandy loam, but this fruit will succeed in any soil with proper attention to cultivation and manuring; particular care, however, should be taken not to plant a new orchard on the site of an old one. It may be necessary also to remark, that the ground where they are planted should be kept in a constant state of cultivation, as they become bark-bound and unthrifty the second year after the grass has formed a sod around them. There are two causes which have operated against the success of this tree, and which seem peculiar to it—the one is a *worm* which attacks the tree at the root, near the surface of the ground, and often totally encircles it; the other is a disease usually denominated the *yellow*s.

The worm.—The most proper course to obviate the depredations of the worm, is to examine the trees every spring and autumn, and to make an application of a mixture of fresh cow dung and clay to the wounds which have been made by them, at the same time destroying any worms that may be found. Lime or ashes thrown around the roots of peach trees are found to prevent, in a great measure, the depredations of the worm.

*Yellow*s.—This disease, which commenced its ravages in New-Jersey and Pennsylvania about the year 1797, and in New-York in 1801, and has spread through several of the states, is by far more destructive to peach trees than the worm, and is evidently contagious. This disease is spread at the time when the trees are in bloom, and is disseminated by the pollen or farina blowing from the flowers of diseased trees, and impregnating the flowers of those which are healthy, and which is quickly circulated by the sap through the branches, foliage, and fruit, causing the fruit, wherever the infection extends, to ripen prematurely. That this disease is entirely distinct from the *worm*, is sufficiently proved by the circumstance, that peach trees which have been inoculated on plum or almond stocks, though less affected by the *worm*, are equally subject to the *yellow*s—and a decisive proof of its being contagious is, that a healthy tree, inoculated from a branch of a diseased one, instead of restoring the

graft to vigour and health, immediately becomes itself infected with the disease. As all efforts totally to subdue it must require a long course of time, the best method to pursue towards its eventual eradication, is to stop its progress, and prevent its farther extension—to accomplish which, the following means are recommended, which have been found particularly successful.

As soon as a tree is discovered to possess the characteristics of the disease, which is generally known by the leaves putting on a sickly yellow appearance—but of which the premature ripening of the fruit is a decisive proof—it should be marked, so as to be removed the ensuing autumn, which must be done without fail, for if left again to bloom, it would impart the disease to many others in its vicinity; care is also necessary, in its removal, to take out all the roots of the diseased tree, especially if another is to be planted in the same place, so that the roots of the tree to be planted may not come in contact with any of those of the one which was diseased.

If your neighbour has trees infected with the yellows in a quarter contiguous to yours, it will be necessary to prevail on him to remove them, that yours may not be injured by them. By being thus particular in speedily removing such trees as may be infected, the disease is prevented from extending itself to the rest of the orchard, and the residue will consequently be preserved in perfect health at the trifling loss of a few trees annually from a large orchard.

PEACHES, APRICOTS, AND NECTARINES, ON ALMOND STOCKS.

In France a particular variety of the almond is used as a stock on which to inoculate the different varieties of the peach, apricot, nectarine, and cultivated almond. This variety has now been introduced into cultivation in the author's establishment, and trees budded thereon can be supplied in the autumn of 1828. It is said that this almond is not subject to the attacks of the worm; and if so, it will furnish a preventive against these depredations which have been so great a cause of complaint throughout our country. It is necessary to observe, that this variety of almond is very different from the common bitter almond frequently used for stocks in the United States.

PEACHES, APRICOTS, NECTARINES, &c. ON PLUM STOCKS.

In England the plum is preferred as a stock for the same trees that the almond is used for in France—but there certainly exists a great disadvantage in using the plum as a stock for these fruits, as the growth of the latter being much more vigorous, they are apt to overgrow the plum; and the latter being in many instances unable to furnish an adequate portion of sap to promote the growth of the former, they cannot attain to their natural developement, but form only trees of diminutive stature. This retarding of the growth, however, may cause the trees to arrive at a state of fruition at an earlier period; and if they are intended as appendages to small gardens, and not for orchards, where great space could be allowed, their minor size might be deemed a convenience, if not an advantage.

Preservation of Peach Trees in Winter.

It has been discovered by the farmers about Utica, and north of that town, that if a heap of stones is placed round each tree, of four feet in diameter, and of about the height of the usual depth of snow, that the trees are not killed by the winter, and several flourishing orchards exist in that section of country, where this practice is pursued. The effect of these collections of stones is to prevent the frost penetrating to the roots, thus proving, that where the roots are preserved free from frost, the other parts of the tree will be less sensible to its attacks. I have also been informed, that a mound or embankment of earth around the body of the tree has the same beneficial effect; and have recently understood from an intelligent gentleman, that such is the practice in Switzerland; and as I have a correspondent in that country who is extremely well informed on horticultural subjects, I will make it a point to obtain from him a statement of all the precautions found to be successful in that climate, which information will no doubt greatly aid those who reside in the northern sections of our country.

Could not this plan just referred to be pursued with success with many of the more delicate varieties of the Grape Vine?

Chinese Flat Peach.—This most curious of fruits, introduced from China by the Horticultural Society of London,

and figured and described in their Transactions, may be considered an anomaly of its species. The fruit is described as $2\frac{1}{2}$ inches wide, and only $\frac{1}{16}$ of an inch through from the stem to the outer side, and the existence of such a fruit has always been doubted until actually received from China. Both the external appearance of the fruit, and the pit so singularly compressed in its form, would seem to be the result of art rather than of nature. It is represented as being an early peach. About 20 trees are in possession of the author, which have been inoculated from the original introduced by himself.

84. *Dwarf Orleans*.—This peach is of most singular character; the joints of the shoots are very near to each other, and the growth exceedingly slow. It forms a small head of about 18 inches to 2 feet in height, and may with all ease be cultivated in a flower-pot in the same manner as a geranium. Notwithstanding its diminutive size, the fruit, which is round, is not small, but as large as a fair sized nutmeg—it ripens quite late. I paid half a guinea for a tree of this kind introduced two years since.

81. *Monstreuse*.—This clingstone, celebrated for its great size, is the largest known in France. It is nearly white on the shade side, and of a lively red next the sun; the flesh is firm, flavour good, and it is highly esteemed for preserves. It is well calculated for transportation a considerable distance; ripens in September and October, and is the most beautiful peach for market of that season.

80. *Perséque*.—This is a very large fruit, of oval form, and fine red colour; the tree is very productive, and its fruit ripens in October.

79. *Vinous Purple*.—This peach, called in France *Pourfrée Vincuse*, is one of the finest varieties allied to the *Mignonne*; the fruit is large, flesh fine and melting, vinous and juicy; ripens in August.

68. *Kenrick's Heath*.—I received this peach from Mr. Kenrick, of Brighton, near Boston, and he informed me that it was received from the late General Heath. It is considered as an uncommonly fine fruit, and has been sold for a great price in the Boston market. It is very large and oblong, and some of the peaches have weighed over $\frac{1}{2}$ lb. The colour is red and white, and it ripens about the time of the lemon clingstone. Its size and shape distinguish it from most other peaches of the season.

18. *Gold and Purple*.—This is a peach ripening before

the lemon clingstone, and of about the size of the red rare-ripe, which it resembles in shape; its flavour is agreeable, though not equal to the lemon clingstone; it is of the finest gold colour on one side, and the deepest crimson on the other. There is no tree more productive, and when you consider at one view the beauty of the fruit, and the immense quantities which load the branches, the appearance is truly striking.

66. *Sargent's Rare-ripe*.—This peach is a seedling variety well worth attention. It is yellow, round, rich in flavour, and the tree very productive. It is best known in the vicinity of Boston, where it originated.

13. *Jacques' Yellow Rare-ripe*.—This peach, which I received from the vicinity of Boston, is represented to be very fine. I have a number of the trees, but they have not yet produced fruit.

82. *Yellow Apricot*.—This peach is of very large size; its colour is yellow, a little touched with red on the sunny side; the flesh also yellow and solid, with a little of the apricot flavour; it is a late fruit, not ripening in general till October.

The limits of this little work will not allow me to describe the numerous delicious varieties of this fruit—but, to the lovers of the peach, I can promise a rich treat in the copious publication I am preparing for the press, for in addition to the choice collection already enumerated in the Catalogue, I have received from the south of France and Italy, 48 new varieties, comprising *all the choicest and highest flavoured Peaches* of that favoured region, being determined that the amateurs and connoisseurs of fruits throughout our country should have it in their power to gratify their taste with these fruits without the expense of a trip to the Mediterranean. It has been remarked by travellers, that the fruits above referred to possess a degree of odour (*parfum*), which renders them particularly delicious. We shall now be able to give ultimate decision on this point; for if any climate is peculiarly favourable to the culture of the peach, it is from the Potowmac to Louisiana.

NECTARINES.

With regard to the soil and culture proper for this fruit it is unnecessary to go into detail, as whatever directions have

been given on those points with regard to the peach, are equally applicable to the nectarine.

Being a smooth skinned fruit, it requires the same precautions with regard to the attacks of the *curculio* as are prescribed for the plum and the apricot. I have been informed by the Hon. Asher Robbins, of Rhode-Island, of a circumstance that has come within his notice, which merits investigation, which is, that in an orchard where peach and nectarine trees were planted promiscuously, the former have gradually died of the *yellow*s, while the nectarines remained in perfect health and vigour. In my own grounds, I have occasionally lost trees of the nectarine by the *yellow*s, but have never made a particular investigation whether they were less or more susceptible of such attacks than the peach.

13. *Elruge*.—This is a fine nectarine, of good size, and a great bearer; the colour dark red next the sun, and a yellowish green on the other side; the flesh is fine, melting and juicy; ripens late in August.

9. *Red Roman*.—This fruit is of a deep red or purple next the sun, and rather yellow on the other side; it is a fine fruit, and a good bearer; ripens in September.

19. *English Brugnion*.—This is deep red on the sunny side, and pale yellow on the other. It is a fine fruit when ripened on the tree, but inferior when matured in the house.

5. *Golden C*.—This is the most beautiful fruit I have ever seen. It is a large sized nectarine of the finest orange colour, delicately mottled with red next the sun, which gives it a clear waxen appearance, so that it greatly resembles an artificial fruit; ripens in September.

10. *Vermash*.—A fine late fruit, of a greenish colour, a little reddened on the sunny side; ripens in September.

20. *Musk Violet*.—Fruit of good size, of a lively red on the sunny side, flesh yellow, juicy, high flavoured, and somewhat musky. This matures well in the house; ripe in September.

15. *Williams's Pitmaston*.—This nectarine has recently been brought into particular notice in England as a new variety of very superior qualities. It has not yet produced fruit in this country, but there can exist no doubt that its claims to merit are accurately stated.

N. B. The limits of this work will not allow me to describe more kinds; but it may be said of nectarines gene-

rally, that they are exceedingly fine fruits, and peculiarly unique and beautiful in their appearance, and among the greatest ornaments of the desert. Many exceedingly fine new kinds have been recently introduced from the south of France, and other parts of Europe, the most of which will be found enumerated in the Catalogue.

APRICOTS.

This fruit thrives in the same soil, and with the same culture, as the peach and the nectarine, and requires the same precautions against the *curculio* as are prescribed for the plum, further comment on those points is therefore rendered unnecessary. It may, however, be well to remark, that the apricot is very apt to produce too great a quantity of fruit—in such cases it is necessary to thin them out, otherwise they will be inferior in size and quality: I will now proceed to describe a few varieties.

1. *Red Masculine*.—This is considered the earliest of apricots; the fruit is not large, and is also less juicy than some others, and the colour red on the side next the sun; it is esteemed for its early maturity, and for being a very great bearer. There is also a white variety; ripens end of July.

15. *Black, or Pope's*.—This apricot, which comes from Siberia, and is consequently the most hardy, seems intermediate between the plum and the apricot. The fruit is of good size, of a red or violet colour on one side, and of a blackish purple on the other. It ripens later than most of the others, and is a very agreeable fruit, but I have not found it to bear well, which perhaps it would do when planted farther north. The Peach Leaved Black, No. 23, is also from Siberia, and produces fruit considerably resembling the above.

8. *White*.—This is an apricot of a whitish or pale yellow colour, of middle size, and pleasant flavour. It forms an agreeable variety among others more deeply coloured.

5. *Peach, or De Nancy*.—This is an apricot of very large size, and of excellent flavour; the tree is, however, sometimes so productive, that unless the fruit is thinned out, they cannot arrive at their proper size. It is considered to differ but little from the Moorpark, and is in fact one of the finest varieties known.

14. *Turkey*.—This is a good fruit, of a deeper colour, and

less juicy than the foregoing, and ripens rather later in the season.

4. *Roman*.—This is a large yellow fruit, of good flavour, and held in esteem.

12. *Breda*.—This is an excellent fruit, of large size, and yellow colour, juicy, fine flavoured, and a good bearer.

7. *Brussels*.—This is rather a small fruit, but is a great bearer, and consequently much esteemed. The fruit is red next the sun, and of fine appearance; it has rather a tart flavour, which is admired by many persons, and is also one of the latest in ripening.

21. *Monstrous Peach*.—This is considered the largest of all Apricots; the growth of the tree is very strong, and the fruit highly esteemed. I obtained it from the south of France, with a number of others of great excellence, several of which are enumerated in the Catalogue, and the others will be in the next edition.

20. *Common French*.—This is one of the largest apricots known in France, when the tree is in a good situation; flesh fine flavoured; it is a vigorous growing tree, and delights in an airy situation; ripens in July.

23. *Provence*.—Fruit of moderate size, flesh yellow, sometimes rather dry, but with a sugary and vinous flavour, the pit is sweet; ripe in July.

N. B. The apricots now in my collection exceed 35 choice and select varieties.

ALMONDS.

The soil and culture proper for the almond are the same as those necessary for the peach, with this exception, that as the root of the almond penetrates to a greater depth than the peach, it would be well to select a soil of good depth; but, if inoculated on the peach or the plum, this precaution is unnecessary. This tree is a source of abundant profit to the cultivators in the middle and south of France and in Italy; and when we consider the perfect ease with which its culture can be carried to any extent, and the constant and increasing demand for its fruit, it seems almost incredible that no persons have devoted their attention to raising an adequate supply. In any part of Virginia, and south of it, all the more delicate kinds of almonds may be cultivated profitably to any extent, and a few hundred acres of land of what now lies useless and unproductive, could be made to yield not only a large

revenue to the proprietors, but by superseding the importation from abroad, strike one more link from the chain of dependence on foreign nations.

Varieties.—Of the almonds there are a number of varieties. Those generally cultivated for the table are the "Ladies' Thin Shell," the "Sweet Sultan," the "Small Soft Shell," and "Large Soft Shell." There are also the "Sweet Hard Shell," and the "Bitter Almond." These two last are used for other purposes.

Of the almond there are also a number of varieties for ornament only—such as the Dwarf Double Flowering, and the Tall Double Flowering—the latter growing as large as a Peach tree; also the Silvery Siberian, and the Oriental.

PLUMS.

The plum is not difficult in adapting itself to almost any soil; indeed, it flourishes in every situation but in a clay, marshy, or too sandy soil. A light rich soil is however preferable, and the same care is necessary as has been recommended for fruit trees generally, in keeping the ground cultivated around them when young; for although it is a common observation, that plum trees succeed best in a hard trodden soil, and though such a situation may cause the trees to retain their fruit, still it must be decidedly unfavourable to their growth. Plums, apricots, and nectarines, are smooth skinned fruit, and are in some parts of the United States subject to be injured by a small bug called the *curculio*, which stings the fruit, and causes it to drop before it has attained its proper size. Their depredations may be effectually prevented by paving round the trees *as far as the branches extend*, as it has been incontestably proved, by frequent experiments made by the author and others, that the *curculio* will not infest those trees where they cannot find means of immediately concealing themselves in the ground on dropping from the branches. Plum trees are also subject to injury from another insect, which stings the branches, and causes large protuberances to form on them, which, if not cut off, produce a canker that in time destroys the tree.

There are a number of kinds, however, which are very little subject to the attacks of this insect, and some which are not at all so. Among these may be enumerated the Yellow and Red Chicasaw, American Cherry, American Red and

Yellow, Yellow Egg, Washington, Hulings' Superb, Tomlinson's Charlotte, Imperial Violet, and a number of others. But even when trees are stung by these insects, if proper attention is paid at an early stage, and every branch carefully cut off in February or March, below where any appearance of the canker extends, and these branches in which at this period the eggs of those insects are deposited are immediately burned, such attention will, in a short period, totally eradicate them. Still, if your neighbour has trees near at hand which are thus attacked, it will be necessary that the same course may be pursued by him simultaneously, otherwise the insects which are winged will find their way from his trees to your own, which would render your individual efforts useless. To show the ease with which the difficulty referred to can be remedied, I will merely mention, that in my Nurseries, where there are more than 20,000 plum trees, it is an uncommon circumstance to meet with a tree thus attacked.

32. *Hulings' Superb*.—This plum, I have little hesitation in saying, is the largest known either in Europe or America. The largest white or yellow plum in Europe, as far as my information extends, is the Yellow Egg, or White Magnum Bonum, which is an oval fruit; and the largest red or purple plums are the Imperial Violet, Jerusalem, and some of the prunes. The Hulings' Superb I received from Dr. William E. Hulings, of Pennsylvania, a gentleman distinguished as much for his zeal and perspicuity in the introduction of new and valuable fruits to proper notice, as for the extreme liberality evinced in their dissemination to others. To that gentleman I am indebted for the following remarks:—"I have had a fully ripe and delicious plum from my tree, weighing three ounces and seventy-eight grains, and measuring round six inches and seven-tenths." I saw the fruit of this tree, which stands immediately beside a Washington plum, and it was decidedly the largest of the two. The fruit is of a roundish form and greenish colour, bearing an affinity to the gage, from which it doubtless originated. Were I to venture a supposition as to its parentage, I should suppose it to have originated from the Green Gage, impregnated by the White Magnum Bonum. It is three years since I began to cultivate it, and I have already sent a number to different parts of the Union, and several hundred are now in the Nurseries. In a more recent letter from Dr. H.,

he remarks, that this plum "is very fine flavoured and sweet, and the first in rank among plums"—in which opinion I fully concur; its present title was given to it by me, in honour of that gentleman.

23. *Washington*.—This plum, sometimes called the Bolmer, is of doubtful origin, and it is but of latter years that it has been known by either of the above titles. Some few years ago, Mr. Bolmer, a very respectable merchant of New-York, finding it in his collection, and deeming it a new variety, it was presented by him to a number of his friends, and from one or more of them received the appellation of Bolmer's Washington. Its extraordinary size and fine gage flavour caused it to attract much notice, and supposing it a novelty, I procured a tree for myself, for which I paid three dollars, a price at which they were readily selling at the time; but what was my surprise, when, as its foliage and fruit were developed, to find it an old and familiar acquaintance, which had been cultivated at the Nurseries at Flushing during a long course of years, under the title of "Superior Gage;" and of which trees, of the thickness of a man's thigh, were to be seen throughout the country, and particularly in the garden of Mr. Van Sindren, and others in this vicinity. Mr. James Bloodgood, of Flushing, (since deceased) made also the same discovery about the same time. Three years since, happening to be on a visit at Albany, I was again surprised to meet the same plum in the garden of Isaac Dennisen, Esq., under the name of the "Double-Imperial Gage." The trees in his garden were of very large size, and he stated to me, that he had obtained them under the above name 18 years before, from the vicinity of New-York; it having been long an object with that gentleman, who is distinguished for his judgment and discrimination of fruits, to concentrate all the most valuable varieties of the plum. I have taken some pains to ascertain the origin of this plum, and particularly whether it was brought originally from Europe, being anxious to establish the native country of so superior a fruit, and I have come to the conclusion, that it is of American origin, as I have never been able to trace it farther than to the Nurseries at Flushing. I will mention one circumstance which may throw some light upon the subject. It has always been the custom at the establishment of the author, at Flushing, to plant annually the seeds of the finest fruits, for the purpose of originating new varieties; and, about the year 1790, his father planted the pits of 25 quarts of the Green Gage plum;

these produced trees yielding fruit of every colour; and the White Gage, Red Gage, and Prince's Gage, now so well known, form part of the progeny of those plums; and there seems strong presumptive evidence to suppose that the Washington Plum was one of the same collection.

Since the foregoing was written, a small branch, with 24 of these plums on it, has been sent by Leonard Richards, Esq. of Newark, to the Editors of the Statesmen, in New-York, presenting probably the greatest weight of that fruit ever produced on so small a space. Many plums on the same tree were six and three-quarter inches round, and in one or more instances weighed four and a quarter ounces; which is a greater weight than has been heretofore known. The tree whence these were plucked, is called "Superior Gage," being the original title referred to in the foregoing remarks.

24. *Prince's Gage*.—This plum is the largest of the gages, if we except the Washington; the fruit is of a whitish green until nearly ripe, when it changes to a pale yellow; it is one of the most luscious plums, and was originated from seed by the father of the author.

Bleecker's German Gage.—This plum I received from Isaac Denniston, Esq. of Albany; he states that it was reared from seed by Mr. Bleecker, of that city, about the year 1810. It is rich and finely tasted, and nearly as large as the Washington, and of similar shape; the leaves are, however, much smaller. It is a great bearer, and fine for preserving; ripens about the middle of August.

Duane's Purple French.—This plum I received from my esteemed friend James Duane, Esq. of Duanesburg, who obtained it originally from France many years since. Its colour is a pale purple or pink; its flesh is juicy, and fine flavoured, and it is of monstrous size; indeed I never recollect seeing a larger purple plum; it ripens the beginning of August.

41. *Tomlinson's Charlotte*.—This plum I received from my friend Judge Tomlinson; it was originated by him from the seed of the Yellow Egg Plum. It is of the shape of its parent, but different in quality, being sweet and agreeable in flavour, and more calculated for a table fruit; it ripens about the middle of August.

53. *Prince's Blue Primordian*.—This is the earliest plum I am acquainted with, and was reared by me from the seed of the White Primordian. It is ten days earlier than its

parent, of about the same size, of an oval shape, and blue colour; the flavour is pleasant, but its great value consists in its early maturity.

22. *Little Queen Claudia*.—This is a plum of the gage family, of fine flavour, and of a yellow colour when ripe. It has all the good qualities of the Green Gage, except that its size is much smaller. It is a tree of extremely vigorous growth.

21. *Large Queen Claudia*.—This plum, the parent of all the class of gages, ranks among the finest for the luscious quality of its fruits, and for the vigour and productiveness of the tree; it ripens in August.

Goliath, Nectarine, or Caledonian.—This plum is of very large size, and has attracted much notice in England; but it is only recently introduced to this country, where it has not yet produced fruit that I am aware of.

42. *Coe's Golden Drop*.—This plum is of a fine amber colour, much in form of the Yellow Egg Plum, and of about half the size; the flavour is very fine, and it is considered one of the most beautiful plums for the dessert; it ripens in September.

26. *Blue Gage*.—This is a very luscious plum, of a good size, and bears well.

25. *Green Gage*.—This plum is so universally known, that description seems unnecessary. I will, therefore, merely remark, that it is of good size, a yellowish green with dots on the sunny side when ripe, and extremely luscious; ripens in August.

29. *White Gage*.—This plum, reared from the seed of the Green Gage, is much larger than its parent; its colour is of a pale straw colour when ripe; the tree produces a great abundance of fruit.

Winesour.—This plum is highly esteemed for preserving, and is also used in the making of wines; it ripens late, and produces well.

46. *Imperatrice*.—This is one of the finest late plums, and when perfectly mature is extremely sweet; ripens in September, and often continues to October.

20. *Yellow Egg, or White Magnum Bonum*.—This plum bears well, and is very large, and has been produced of the full size of a hen's egg in particular situations; it is not considered a table fruit, though sometimes eaten as such; it is principally used for preserving and baking.

19. *Purple Egg, or Red Magnum Bonum*.—This is a very

large egg shaped fruit, frequently used as a dessert plum, but more generally for preserving; it is a good bearer, and ripens in September.

31. *Smith's Orleans*.—This is a fine large purple plum of excellent flavour, suitable for the dessert, and much esteemed; the tree is of very rapid growth, and bears well.

Bingham.—This is said to be an oblong yellow plum of large size and excellent quality, tender, rich, and juicy. I have not yet had it to produce fruit.

36. *Peter's Large Yellow*.—Is said to be a variety of the gage, nearly as large as the Washington, and in quality much resembling it.

9. *Wetherill's Sweet*.—Is a delicious sweet little clingstone plum, much admired, but not much larger than the common Blue Damson; ripens in August.

72. *Spanish Damask*.—Fruit oval, medium size, violet colour, and touched with red on the sunny side; flesh sugary, high flavoured, and separating from the pit; ripens the beginning of September.

50. *Monsieur Hatif*.—Tree vigorous and productive; fruit large, round, and handsome, of a violet colour, and melting; ripens the end of July or beginning of August.

101. *Peach*.—Fine large fruit, and in flavour similar to the preceding; ripens also about the same period.

95. *Jerusalem*.—A very beautiful plum, of large size, flesh adhering to the stone, and somewhat resembling the Apricot Plum in appearance, the flavour agreeable.

94. *Isle Verte*.—Fruit large and oblong, very good for preserves; ripens in September.

57. *Monatrous Prune*.—Of the prune, or, as they are termed in Germany, "Quetsche," there are a number of varieties, all which are of fine size, and considered as the best plums for drying as prunes; this is one of the largest of the varieties; the principal characteristic of these plums is that the flesh is sweet and agreeable when dried. I am informed that the "Italian Prune" ranks highest as a table fruit when plucked from the tree. The process of drying prunes seems to be so very easy, that I should suppose it might be undertaken in this country with a certainty of success, and so as to totally supersede the importation of that article.

Note.—The prescribed limits not allowing space for descriptions of other plums, I will merely remark, that al-

though the varieties of table plums now cultivated in the author's establishment exceed 140, still they are a *selection only* of the choicest kinds; in making which, the commoner fruits have been altogether rejected.

CHERRIES.

This is a tree which accommodates itself to a variety of soils, and will succeed any where but in a clay, a very arid, or a low wet situation. The soil, however, to be preferred, is a light, rich, or sandy loam of considerable depth. The soil around them must be kept cultivated until they have attained a considerable size. If the bodies of the trees become bark-bound, some rotten manure must be dug in around them, and the bodies and largest branches be brushed over with soft soap.

22. *Yellow Spanish*.—This is a cherry of the largest size, and at the same time one of the most luscious. It is a variety of the Duke, of a straw colour, dotted on one side with small red spots, and added to its fine quality, it is a constant bearer. The skin appears so delicate, that I do not think it so well calculated for transportation as some others, and I have also noticed that, probably from the same circumstance, the fruit is apt to rot during long continued rains at the period of ripening. At Boston this cherry is sometimes called the Carnation, and by others the Bigarreau, the latter term invariably indicates *hard cherries*.

38. *Elkhorn*.—This is one of the largest black cherries I have ever seen, its size varies little from that of the Black Tartarian, but it ripens two weeks later, and is peculiarly distinct from every other kind; the flesh, when eaten, having a liver-like consistence and very solid. It is perhaps less highly flavoured than some others, but still a superior fruit; and from its solidity is well calculated for transportation to the markets, and its ripening at a later period causes it to be most suitable for filling up the space between the ripening of the earlier Duke and Heart Cherries, and the common Kentish and Morello varieties. I discovered this variety on a tour through Maryland about 30 years ago, growing in the garden attached to a hotel, and finding it very different from any that I had seen, I brought home some scions for inoculation; the landlord called it the Elkhorn, which name I adopted for it.

4. *Black Tartarian*.—This cherry, now well known in many parts of the Union, is not surpassed by any other Heart Cherry with which I am acquainted. It is of the largest size, of a fine black colour, very superior in flavour, and the tree is a great and constant bearer. Its period of ripening is the same as the Black Heart, but for all purposes it is far more desirable. It is, without doubt, the best market cherry of its season, and in connexion with the Yellow Spanish, may be considered not to be rivalled for the dessert. It has been the fortune of this, as of most other choice fruits, to receive in England a great number of titles, and no less than ten are enumerated, by which it has been sold in that country. It has even in our country, from the before mentioned circumstance, been disseminated under two names, different from the one that heads this list—the Ronald's Black Heart, and the Circassian, both of which refer to the same fruit.

5. *White Tartarian*.—The cherry long cultivated by this name in our country I have ascertained to be incorrect, and is nothing more than a half barren variety of the White Heart. I have recently introduced the genuine kind, which is a most beautiful *transparent* fruit, of a very fine quality, but not of very large size.

28. *Prince's Duke*.—Of all cherries this is the largest that I have seen, though not greatly varying from some I have enumerated. It was reared by myself from the seed of the Carnation, and is consequently of the class termed Duke Cherries. The fruit is red and very luscious when fully ripe. The tree partakes of the appearance of the Carnation, and is not a great bearer.

48. *Florence*.—This is a cherry of excellent flavour, and a most beautiful fruit for the dessert. It produces well, and the fruit is of good size.

47. *Waterloo*.—This is one of the fine productions of Mr. Knight. It is a fine flavoured fruit, agreeably sweet and productive.

44. *Plumstone Morello*.—The varieties of the Morello are considered the finest fruits for tarts and preserves, and also for putting in brandy; but the European varieties are far surpassed in size and value by the present one, which is a native, discovered by myself in travelling through Virginia. It is far larger than any other variety, extremely rich and fine, and has pits shaped like those of the plum, whence its name. I have never found either this or the large English Morello to be attacked by the insect which perforates the

branches of the common Morello, and causes large excrescences to be formed, which, if left to increase annually, and not lopped off in time, destroy the tree altogether.

60. *Napoleon Bigarreau*.—The growth of this tree is the strongest I recollect to have seen, excepting the Tobacco Leaved Cherry. Its general appearance is indicative of a superior fruit; and although I have not yet myself seen its produce, still it may reasonably be supposed that this tree, which originated in France, would not have received the name of the greatest favourite of the nation, without its possessing superior merit. It was introduced to this country but three years since by myself.

20. *Griotte d'Allemagne*.—Fruit of a red colour and very juicy, of a good size and much esteemed; ripe in July.

65. *Select Beauty*.—Fruit very large, with long petioles; of a fine red colour and excellent flavour; the tree is not very productive; ripe in July.

36. *Cluster*.—This is a great curiosity, for on a single stem or petiole, which of other kinds supports but one cherry, this has a number united, thus forming a cluster of cherries on one stem; the fruit is delicate, but acid; the tree produces well, and the fruit ripens in June.

64. *Pigeon's Heart*.—Fruit of fair size, the skin shining and marbled; ripens in July.

12. *China Heart*.—This cherry I raised from the seeds of the Ox Heart, and it is different from any other that has met my view. It is but of moderate size, but beautifully mottled, more like a waxen fruit or some representations on China ware; the flesh between the solid and the melting, quite sweet, and with a flavour peculiar to itself, differing from all others; it is an exceedingly productive tree, and the lower branches, as it advances in size, assume in many cases a pendant form; it ripens just after the Black Tartarian and many others are past, and forms a link between them and the later varieties.

39. *Remington White Heart*.—This is the latest cherry which has originated in this country, and indeed, with few exceptions, later than any known in Europe. A bunch of the fruit was sent to me from Rhode-Island, about the 10th of September, which was just then ripe, but at Long-Island it ripens in August; the fruit is of pleasant flavour, but nothing superior; the tree is very productive; but the late period of ripening its fruit forms its greatest merit.

52. *Tobacco Leaved*.—Relative to this tree, more com-

monly known by the title "Four to the pound," and which has been recently received from Europe with high accounts of its merit, I propose to give some details. There are some statements which reach us from sources which we deem so respectable, and accompanied with such other coincident circumstances, that to an unprejudiced mind they appear conclusive. Such are the statements which have appeared in Europe under high names, with regard to this fruit, supported by the altogether unique appearance and monstrous size of the foliage of the tree. In the "Bon Jardinier" of 1822, published at Paris, and edited by Messrs. Pirolle, Vilmorin, and Nosette, page 316, we find the following description under the head of "Cerisier quatre à la livre," or Four to the pound, which I translate literally "Fruit the largest of all, flesh very firm, but inferior to the Gros Cœuret; ripens in August, tree remarkable for the size of its leaves." In the edition of 1824, the same statement is continued. Similar remarks appearing in various other European publications, induced the author of this work to suppose they were founded in truth, and he consequently stated his opinion to that effect; but he now has to remark from his own experience, that he does not anticipate that any advantage can be derived from the culture of this tree for its fruit, although the immense size of its leaves, and its very peculiar general appearance, will always render it interesting as an ornamental tree; and as the former title is delusive, he shall hereafter use the one here adopted. A recent statement mentions that the fruit is of a pale yellow colour, transparent, firm, and sweet, but of little importance.

70. *Large Double Flowering.*—This is one of the most ornamental trees that can deck the garden; its flowers, which are exceedingly double; resemble beautiful clusters of delicate roses, and as the tree attains to considerable size, the display is particularly striking. It is a variety of the Mazard.

71. *Small Double Flowering.*—The flowers of this variety are equally interesting with the foregoing, excepting their not being so large; this tree is also of much smaller growth, being a variety of the Kentish, and is consequently better suited where dwarf trees are required.

Note—The number of valuable varieties of the cherry latterly introduced into notice, is very considerable. The London Horticultural Society particularly mention "Knight's Early Black," the "Black Eagle," the "Waterloo," the

"Florence," &c.; and in France many very large and choice varieties have been originated, which having been but recently introduced here, are yet but partially known to our Horticulturalists. Our country also has not been idle, for some of the finest cherries known have originated in America; the total number of these which are now cultivated in the establishment at Flushing, exceeds 80 varieties for the table, and about 15 or 20 suitable for ornamental only.

QUINCES.

This tree may be cultivated by scions and layers, or by budding on stocks of the same, or on the pear, hawthorn, &c. It flourishes best in a moist soil, where it produces the greatest crops, but will thrive in almost any good upland soil. It requires little attention as to pruning, but must be kept clear from suckers at the root; an occasional thinning out, however, of superfluous upper branches, where too close and interfering with one another, would be advantageous. The Orange Quince is the earliest in ripening, and the Pear and Portugal next, and the Winter being the latest of all, may be preserved for a long time, and used as occasion requires. From the south of France some other fine varieties have been received, which are enumerated in the Catalogue, and whose merits will be noticed in a subsequent publication. The following having been originally from China and Japan, I will make a few remarks in relation thereto.

6. *Chinese Quince*.—This tree is said to produce flowers of a fine red colour and pleasant odour, to yield oblong fruit of beautiful appearance, which ripens in October and November; the fruit, however, is not considered suitable for the table, or equal to other quinces for preserves; and the tree must be considered as more calculated for ornament than use.

Japan Quince, or Cydonia Japonica.—This was formerly called *Pyrus Japonica*, and it is not till latterly that its title has been changed, after the discovery that its fruit, when well ripened, is of good size and nearly equal to the favourite quinces usually cultivated in our gardens; there are two varieties, one with scarlet and the other with pale bluish coloured blossoms, which are very ornamental; the fruit of the two varies also as well as the blossom. A third variety, with semidouble flowers, is now cultivated, but is still rare.

MULBERRIES.

Of this tree, about 18 varieties are cultivated in this country, a few only of which are proper for the table, the others are either useful in the arts, or for purposes of ornament only.

Table Fruit.—Those most valued for their fruit are the one commonly called Black European or Black English, but which came originally from Asia, and the Red American, a common native of our forests.

Ornamental.—Those cultivated particularly for ornament, are the three varieties of the Chinese Paper or Japan Mulberry, which form trees of large size, dense foliage, and finely formed for shade. The fruit of these is perfectly round, and about as large as a hiccory nut of the usual size. There is one peculiarity about these trees, which is, that generally on the same tree leaves are found of a great variety of shapes and forms; and taking every point into consideration, they are as well calculated to beautify, adorn, and afford a fine shade, where trees are wanted more spreading than lofty, as any with which I am acquainted.

3. *White Chinese, or Italian Mulberry.*—This is the species which has always been cultivated for rearing silk worms. It is originally from China, but, from being so extensively cultivated in Italy, it is more generally called the Italian Mulberry. The tree is very easy of cultivation, and of very rapid growth, and may be reared to any extent without difficulty, as it agrees so well with our climate, that they are found growing spontaneously in the hedges on Long-Island, from seeds which have been scattered by the winds or birds. But there is one circumstance which I do not recollect to have seen noticed in any American publication, which I consider of the utmost importance, it is that in the silk rearing countries the kind generally known here as suitable for feeding worms, is not the only one used, but they have a number of varieties, produced by a long course of culture from the same species, which are deemed far more suitable for their purpose. In the south of France nine of these varieties are cultivated, and the produce of the worm is found to be materially different, according to the particular variety on whose leaves it has been fed. These results have consequently reduced that part of this interesting occupation to the following distinctions with regard to

the different trees used, and their effects upon the produce of the worm, viz.—

Varieties causing the production of particularly fine silk.

Ditto causing the production of silk of a coarser texture.

Ditto causing the production of very strong silk.

Ditto producing a greater quantity of silk.

The enumeration of the varieties used in the south of France is as follows :—

Morus macrophylla, or *grosse-reine*.

—— *rosea*, or *feuille-rose*.

—— *lacinata*, or *feuilles decoupees*.

—— *lobata*, or *feuilles lobees*.

—— *oblongata*, or *langue de bœuf*.

—— *ovalifolia*, or *Romain*.

—— *nana*, or *nain*.

—— *italica*, or *bois rouge d'Italie*.

—— *Constantinople*.

In other parts of France they also enumerate, *la reine*, *la feuille d'Espagne*, and *la feuille de Flocs*, but there is little doubt that these local names apply also to some of those before enumerated.

When the great ease with which this tree can be cultivated to an almost interminable extent is taken into consideration, in connexion with the immense national importance which must attach itself to the manufacture of silk, if not wholly, at least in a measure, to supersede its extensive importation, the permanent establishment of such manufactures could not fail to be considered as forming as great an epoch in the history of this country, as its first introduction did in that of France. Another great consideration is, that while the rearing of silk may be pursued in any part of the Union, it seems to be particularly adapted to the Southern States, and it will be doubtless there found to flourish most; and our government may, by fostering and protecting this species of manufacture in that portion of the Union, form a counterpoise to that degree of protection which it has thought proper to extend to the manufactories of the Eastern and some of the Middle States.

CHESTNUTS.

These will thrive in any good soil, and a number of varieties are enumerated in Europe suitable for the table, but

those generally cultivated as such in this country are the following.

11. *Spanish, or Marron*.—With fruit as large as the Horse Chestnut, of fine flavour, and excellent when boiled; highly esteemed by every one.

12. *American Chestnut*.—Found throughout our forests. Fruit of moderate size, pleasant when raw, and also excellent when boiled, and when moderately baked may be preserved a long time.

13. *Common Chinquapin*.—The smallest fruit of the chestnut kind, being about the size of hazlenuts; excellent when collected from the tree, and superior to either of the foregoing when boiled. It is a tree of very dwarf growth, and commences producing fruit when not above two feet high, and at extreme age seldom attains more than eight feet. It is found wild along the roads in Maryland and several other States, and generally on quite poor ground.

14. *Prince's Chinquapin*.—This tree was originated at the nurseries of the author, by impregnating the one last described with the pollen of the Spanish Chestnut, and is intermediate between the parents. The fruit is of good size, and very fine when raw or boiled, and the tree is a dwarf of rather larger stature than the preceding. It commences producing fruit when very small, and attains, when advanced in age, to the height of about 12 feet. It is extremely well calculated as a garden chestnut, and has been eagerly sought after by the lovers of horticulture in Europe.

Note.—There are various species calculated for ornament, such as the White, Yellow, and Red flowering Horse Chestnut; the Dwarf White seldom exceeding five feet in height, and particularly beautiful, the Rubicunda of Europe, &c. &c.

WALNUTS.

1. *Persian Walnut, or Madeira Nut*.—This tree, generally called English Walnut or Madeira Nut, is a native of Persia, consequently neither of the specific titles have any application. It was formerly the practice, when the United States were colonies of Britain, to call every thing that came from there, *English*; but we soon discovered that the fruits most prized in that country, were the accumulated tributes

which her gardens had received from other climes ; it is now, therefore, high time, that we should discard every such title, and where they have no proper application, that they should be permanently exploded.

There are many varieties of this tree in Europe, and several in this country ; these vary in the size of the fruit, in being more or less productive, or in yielding a greater or less quantity of oil. For the latter purpose, this tree has not been cultivated in this country. I will, therefore, confine my remarks to the two first mentioned points, viz. size and fertility.

The most productive is the *Common French* ; the shape is a rounded oval, the kernel is excellent ; it is highly esteemed, and extensively cultivated in France.

Late Flowering, or Serotina.—This is in great repute in the northern parts of France, and also in Germany and Switzerland, as it does not flower till June, and consequently escapes any injury from the late frosts. I have taken much pains to introduce this last variety, believing it would be advantageous to the northern part of our country, and also to Canada, &c.

2. *French Double.*—This is so called, because the nuts are of very large size, being nearly twice that of many others ; the tree is, however, less productive than the two before mentioned.

American Walnuts.—Of these there are a number of varieties, those of most import are the Pecan-nut, Kiskytom or Shelbark, the Black Walnut, and the Butternut ; the first is an oval shaped fruit of great delicacy, brought in quantities to our markets from the Southern States ; the others are too well known to every one to need any description.

All the varieties of the walnut easily accommodate themselves to almost every kind of soil, but the French varieties of the Persian walnut had better be placed in an exposition where they will have the full influence of the sun. All walnuts may be propagated by seeds or by ingrafting, and there is no doubt that all the commoner walnuts throughout our country may, by this process, be changed to trees of the most valuable kinds, which is a subject well worth the consideration of every farmer and horticulturalist throughout our country.

GERMAN MEDLAR.

This tree, the peculiar flavour of whose fruit, when fully matured, has many admirers, will flourish in any soil but one that is wet or marshy, and in any exposition whatever; it exacts no particular care in its culture. The principal varieties are the Common Dutch or German, the Royal Dutch, the Nottingham, and the Seedless. The fruit is of a brownish colour and harsh flavour before it is ripe, but if collected the beginning of October, and placed on shelves, it changes to reddish, and the pulp becomes softened and acquires a sweetish taste, which is pleasing to many persons, but not admired by every one.

DATE PLUM, OR PERSIMMON.

The European Date Plum, or Diospyros Lotus, called also the European Persimmon, will thrive in almost any soil or situation. It is of indifferent quality, and inferior to the American, and, like the latter, needs the aid of frost before it becomes mellow for eating. The American Persimmon is so universally known it needs no description. The Diospyros Kaki, or Japan Date Plum, is said to produce fruit of a cherry colour, and fine flavour—it supports, without protection, the winters of Long-Island.

FILBERTS.

This shrub, or, in some cases, tree, accommodates itself to every exposition, and to every variety of soil, but prefers a moist loam on a sandy bottom, with a northern exposition. It is easily multiplied by seeds, layers, or inoculation. In fact, these nuts, which are vended in large quantities in our markets, grow as well in our climate as the common hazelnut, and produce very abundantly. Such being the case, it is hoped, ere long, sufficient will be produced from our own soil to supersede the necessity of importation, as plantations of this tree would amply remunerate the possessor, or, if planted as a hedge, would be found to be very productive. A single bush of the Spanish filbert in my garden has produced a half bushel annually.

The varieties most valued are the English White Skin, and Red Skin, the Spanish, and the Cobnut; these two last

with very large fruit; also the Prolific, the Frizzled, and the Columna or Constantinople. Of American hazelnuts, which partake of the same properties, but have much smaller fruit, there are two species, the Common Hazelnut, and the Cuckoldnut. None of the above need much attention, except occasionally to thin out the older branches, and to keep them free from suckers near the root.

FIGS.

This tree delights in rich sandy and gravelly soils, but no tree will accommodate itself to a greater diversity of soil. If, however, the ground selected is too moist, the fruit is less flavoured. It requires a warm exposition, for it has been noticed, that the more it received the operation of the sun's rays, the more sugary and high flavoured have been its fruit. It is easily increased by cuttings, layers, and suckers. The fig trees should, however, be kept free from suckers, as these draw off the nourishment in a great degree from the main tree, thereby causing the fruit to be very small, and often immature: but in northern localities it is necessary to form them into low shrubs, that they may be less exposed in winter, and the more easily protected from cold if necessary.

In the middle and northern states, where the fig trees are killed nearly to the ground by the severity of the winters, two crops of fruit may be obtained each season, by planting the early kinds in a warm or sheltered situation, if pains are taken in autumn to bend the trees down, and cover them with earth, sloping the embankment so as to cast off the rain; but, early in April, they should be uncovered and set upright. By this treatment they will produce one crop of fruit early in the summer, and another in September or October.

There are some varieties which are more hardy, and ripen their fruit more regularly in cold situations, than others—such as the Early Brown, Large Late Brown, Large White Genoa, Long Fruited, or Printaniere, and some others. Among those of the finest quality, and which are held in the highest esteem in the south of France and Italy, are the Versailles, Servantine, Napolitaine, Poulette, Large Green, Violet, Marseilles Yellow, Bourjassotte Blanche, &c.

GOOSEBERRIES.

These may be propagated from layers or cuttings; if in the latter way, it is customary to cut out the eye at each

joint of those that go below the surface of the ground, except the two lower ones, which prevents a superabundance of suckers from afterwards being thrown up by the roots; and, in transplanting the young layers, it is best to pursue a similar course.

The gooseberry flourishes most in situations where it cannot feel the effects of our intense noonday sun, and it will withstand an exposure to cold far better than to one of heat. It seems to have reached the achme of its excellence in Lancashire, in England, and in Scotland, where the air is rarefied by the breezes of the ocean, and where the atmosphere may be considered as possessing a considerable degree of humidity. The climate of Rhode-Island I have noticed as being particularly favourable to it, which may be accounted for by the strong approximation it bears in climate to the countries before mentioned. In all cases, the gooseberry should be kept free from suckers, and trained near the ground to a single stem, this mode of training them being found to cause a far greater product in quantity, as well as an increase in the size. They need much attention in other respects, and one-third of the old wood must be regularly trimmed out every autumn, by which means a succession of thrifty bearing wood will be kept up; as the finest fruit is produced on the young shoots of the previous year's growth, it is also necessary every autumn to dig in a plenty of old well rotted manure around them. This treatment will cause them to grow strong, and the fruit to be large and fair. Where the summers are very hot, a northern aspect is preferable, and the fruit will be twice the size, if they are planted against a north fence, or in any other situation where they are sheltered from the intense heat of noonday, which, when differently situated, often scorches the fruit to such a degree as to entirely stop its growth.

Varieties.—These are so numerous that it would be useless to attempt to describe them—about fifty of the finest kinds will be found in the Catalogue.

RASPBERRIES.

This fruit was originally discovered by the Greeks growing on Mount Ida, whence the specific name *Idæus*. At present we have not only many varieties of the above, but several other species, which are cultivated for their fruit in our gardens: among which the Common Red, which is sent

to our markets in immense quantities, and is largely used in the making of raspberry brandy; is of fine flavour and much esteemed, and is the most productive; also the White and the Red Antwerp, which are of very large size and high flavour—of these the White is generally preferred—they are both productive and excellent fruits. The American White and American Black are inferior in flavour, but are nevertheless esteemed by many persons, particularly the white variety. The Twice Bearing, if properly managed, is quite an acquisition. In general, they produce one crop at the usual period, and a less one late in the season, but as a full crop is most desirable, it is said to be best to cut off the whole of the stalks quite to the ground early in the spring, in order to force a strong growth of young wood, which will yield a large quantity of fruit, as it is the wood of the same summer that produces the fall crop. The Red Cretan is a raspberry of delicate flavour; the Cane is also considerably cultivated, and a number of others; the Purple Flowering is only useful as an ornamental plant, its fruit being of no value.

Raspberries may be increased by cuttings, layers, or by the young suckers which spring up in numbers from the root; the latter method is generally considered to produce the strongest and most fruitful. Although this plant is no way difficult as to soil, still it is preferable that this should be fresh and rich, and as it does not flourish for a long period on the same ground, it will be necessary to form new plantations every three or four years. The situation should be half shady, or in a location not exposed to excessive heat. Every autumn the old wood should be thinned out, and only that which is young and thrifty allowed to remain—at the same period some well rotted manure should be dug in around them.

CURRANTS.

This fruit will flourish in all expositions, and in every soil, except one absolutely wet. The plants are generally increased by cuttings, with which the same precautions should be used as prescribed for those of the gooseberry. In autumn the old wood should be trimmed out, and it would be well at the same time to have manure dug in around them. There are a number of varieties, among which are the Common Red and White, the Dutch Red and White, the Champagne, or Transparent Pale Red, Wilmot's Pale Red,

the Black English, and Black American—the foregoing are those cultivated for their fruit. There are also the Yellow Flowering, with fruit similar to the Black American, but of larger size and better flavour; and the Yellow Flowering, with yellow fruit, but not productive—these two are very ornamental for their flowers; also the Variegated Leaved, with red fruit—the Black English, with variegated leaves—and a number of others, calculated more for ornament than use.

GRAPES.

Of all the fruits cultivated in the United States there is none more generally esteemed than the grape; yet, in the middle and northern states, this fruit is seldom met with in perfection except in cities. The Proprietor having attended particularly to the cultivation of the grape for twenty years past, can confidently assure those who wish to have this fruit in perfection, that they may depend on their vines producing well if they will attend to the following directions; for although a season may sometimes occur when the cold and wet will retard the ripening of the fruit, yet even in the worst seasons a tolerable crop may be calculated on.

There are two causes why the cultivation of the vine has not been successful throughout the country, attention to which is indispensably necessary: *the first* is, the proper selection of those kinds which are suitable to the respective climates, and which in this latitude should come to perfection by the middle or end of September; *the second* is, the want of attention to the culture requisite for ripening the wood, which in cities is effected by the dry warm air with little or no care, but in the country requires art and attention to produce the desired effect. I have, therefore, given the following list of grapes, with brief descriptions of their qualities, &c. followed by a general comment on the culture and properties of the vine, which I hope may be considered as useful to those not fully conversant with the subject.

Many of the grapes will be found to differ essentially from fruits cultivated under similar names in some parts of the United States, as in many instances the possessors of grapes of doubtful origin have attached to them the names of old established fruits. This practice, so common in our country, and so calculated to disseminate error, cannot be too greatly deprecated.

So confident has the Proprietor ever been of the success which would attend the culture of the vine in this country, and of the utter inconsistency of the fallacious ideas which have been advanced to the contrary, that he has invariably continued to *extend* his collection of vines, by importations, of the *shicest kinds*, from every clime; and as he has, during the seasons of 1826 and 1827, had near 100 kinds to produce fruit equal to that of France, nearly all of which ripened in August and September, he considers these doubts as entirely set at rest. *Specimen vines* of every kind have been planted out for bearing, and persons desirous of seeing the fruit can view them at the season of ripening. Such persons as desire a selection of varieties most suitable to their particular localities, can have the selection made by the author. It is intended, in the copious work now preparing on "*American Horticulture*," to insert engravings of a number of varieties of the grape.

1. *July Grape, or Morillon Hatif*.—This is also called the Madeleine; it is the earliest grape known in France. The bunches are small, the fruit is also small, of a deep violet colour, and pleasant flavour, but it is not much esteemed, except for its early maturity; ripens here early in August.

2. *White Muscadine, or Early Sweet Water*.—This is a round grape, with a thin skin, and of a delicate flavour; it is a great bearer, and resembles the White Sweet Water in almost every respect, except that it ripens much earlier, being usually in perfection from the 20th to the end of August. It is recommended as particularly suitable for the country, and for more northern latitudes, where, with attention, it will be sure to yield plentifully and regularly.

3. *White Sweet Water*.—This has very large round white berries close on the bunch, which is of a good size; the skin and flesh are very delicate, and replete with very agreeable juice; the berries on the sides of the branches next the sun are often clouded with spots of a russet colour. This grape flourishes admirably in our cities, where large quantities are annually sold in the shops, and some bunches have weighed near 2 lbs. It is somewhat singular, that although it flourishes without protection in the city of New-York, yet I have never known a grape more sensible to the early frosts in the country, where, if unprotected in winter, it is, when young, killed to the ground. It is therefore not recommended for the country in this latitude.

9. *Black Sweet Water*.—This is a roundish fruit, growing in small compact bunches, is very sweet, and ripens in September.

6. *Meunier, or Miller's Burgundy*.—This is one of the earliest grapes; the berries are black, of moderate size, rather oval, and pretty closely set on the bunches, which are short. Its leaves, particularly when young, are covered with a white down, which easily distinguishes it from others, and whence it derives its title. The juice is pleasant and vinous; it is an excellent wine grape, and produces well; is very hardy, a sure grape for a crop, and is one of those that will succeed farthest north. It enters largely into culture in the vineyards of France, and is well calculated to succeed for the same purpose in this country.

89. *White Morillon*.—The berries are nearly round, and form a bunch of good size; the fruit in flavour resembles the Black Morillon, but is rather more sweet; it is a pleasant early table fruit, and ripens at the end of August or beginning of September.

80. *Striped Aleppo*.—This is a variety of the Morillon; the berries are on some bunches black, on others white, but very frequently black, white, and striped on the same bunch; the fruit is similar to the Morillon Noir in quality, being pleasant, and ripening early. It is sometimes called Raisin de Suisse, and by others Morillon Panaché. I consider this grape would mature its fruit at Boston, and for some distance to the north of it; ripens at the end of August or beginning of September.

7. *Auvernat, or Pineau Noir*.—This is a wine grape, much cultivated in Burgundy; the berry is not large, but closely set on the bunch, and of agreeable flavour; the bunches are but of moderate size. It is often called Pineau Noir, but is quite distinct from the following; ripens the beginning of September.

Pineau Blanc.—A fruit of minor size and oblong, with small bunches of a form somewhat conical, and the berries closely set on the bunch; it is not the most productive, but its fruit is of excellent flavour, and produces the most delicate wines of Burgundy. The finest vineyards of that part of France are most composed of the varieties of the Pineau and of the Morillon. They all ripen about the same period, and in this vicinity are at maturity the beginning of September.

70. *Pineau Gris, or Grey Burgundy*.—This grape, also called Auvernat Gris, is used in connexion with the Auver-

nat Blanc, and Auvernat Rouge Claire, to form the famous Champagne wine. The bunch of this is short, unequal in its form, and moderately large; the berries are round, pretty close, sweet, fine flavoured, and of a greyish colour. Formerly, many vineyards in France were entirely composed of this grape, and at present it forms a large proportion of several. It is sometimes called Griset Blanc; ripens in September.

68. *Pineau Blanc, or White Burgundy*.—This grape is also called Burguignon Blanc; the berries are somewhat oblong, and so closely set on the bunch, that in very rich soils it is not uncommon for a portion to fall off in order to give space for the remainder. The fruit, when ripe, is of a yellow colour; ripens in September.

98. *Bourguignon Noir*.—This is another variety of the Morillon, and is somewhat allied to the Pineau; the berries are, however, less closely set on the bunch, and the fruit less oval than the latter; they are black and sweet, and the bunch is often winged or shouldered. It is cultivated in connexion with the others referred to in the fine vineyards of Burgundy, and ripens at the same time.

26. *White Chasselas, Royal Muscadine, D'Arboyce, or Chasselas Blanc*.—This has round amber-coloured berries, of moderate size, thin skin, and soft juicy flesh; the bunches are very large; it is a great bearer, and ripens in September.

This grape, which is the most cultivated for the table in the middle of France, but which does not come to perfection in the north of that country, unless in very favourable localities, does not fail to regularly ripen its fruit in the vicinity of New-York; and when excellent wines are made far north of where this grape is found to succeed, it proves at once the fallacy of the assertions made by some, that vineyards cannot succeed in this vicinity. One circumstance is fully proved in the experiments with the above grape, which is, that if our season is in reality shorter than in some parts of France, where it flourishes, still, that its greater intensity compensates for the shortness of its duration. Col. Clapp, of Oxford county, New-York, has found this grape to ripen perfectly well in that locality, but he covers the vines in winter; they ripen with him the beginning of September. This is sometimes called Chasselas de Fontainbleau.

The varieties of the Chasselas are considered in France among the finest of their table grapes, and are very extensively cultivated for that purpose.

27. *Red Chasselas*.—This is similar to the white in size and shape, but is of a red colour next the sun; it is considered a good grape, and ripens rather later than the white.

35. *Golden Chasselas*.—A round fruit, of amber colour, melting, sweet, and of excellent flavour; the skin rather thick, and the bunches are of good size; leaves pretty deeply indented, and on a long petiole; ripens in September.

Musk Chasselas.—Rather smaller than the above, and ripens later; a white round berry, sweet, and of a musky flavour.

40. *Cioutat, or Parsley Leaved*.—This is a variety of the Chasselas, with finely cut or divided leaves; fruit of fine quality, delicate and juicy; the berries and bunches size of the White Muscadine; ripens early in September. There are two varieties, the red and the white.

13. *White Frontignac, or Muscat Blanc*.—The berries are of good size, somewhat oval, and of an amber colour next the sun; the bunches are long, and terminating to a point, and the berries pretty closely set; the juice luscious and musky, and of exquisite flavour; perhaps no grape is superior to this as a table fruit. It has been remarked, that this grape does not come to maturity in the north of France, except in situations particularly favourable; at Long-Island it ripens in September.

16. *Red Frontignac, or Muscat Rouge*.—This grape ripens earlier than the preceding, its berries being less closely set on the bunch; it is also less highly flavoured. The fruit is of a lively red colour, and round; the bunch is oblong, and the peduncle which supports it is remarkable for its size; ripe in September.

15. *Black Frontignac, or Muscat Noir*.—This has very large round fruit, covered with a mealy bloom, and of a very fine flavour. It is called, at the Cape of Good Hope, the Black Constantia; ripens in September.

17. *Violet Frontignac, or Muscat Violet*.—The leaves are similar to the white variety; the berries are large, oblong, of a violet colour, and high musk flavour; they are powdered with a fine bloom, and are very delicious. I consider it one of the best table grapes; ripens in September.

14. *Grizzly Frontignac, or Muscat Gris*.—The berries are round, tolerably large, colour brown, red, and yellow intermixed, and they have a high musky perfumed flavour; ripens in September.

18. *White Muscat of Alexandria, Malaga, or Alexan-*

drian Frontignac.—This is of high musk flavour when it is at maturity, for which purpose it requires a very warm situation; the berries are very large, oval, and of regular form, without being too closely set; bunches of beautiful appearance; when perfectly ripe they are of a fine amber colour. I consider this the same as the White Muscadel.

19. *Black Muscat of Alexandria*.—This is similar to the above in its general properties, except in point of colour, which, as its name indicates, is black. I consider this the same as the Black Muscadel and Black Malaga.

81. *Morocco, or Le Cœur*.—The berries are unequal in size, of a heart shape, and violet colour, forming very large bunches; every part of the plant indicates a vigorous state; the leaves are large, and deeply indented; it is not considered as a very high flavoured fruit, and should have a warm situation.

56. *Cornishon, or Cucumber Grape*.—This is a grape of peculiar form, whence its name; it is very long, swelled in the middle, and pointed at the ends; the berries are not closely set, but the bunch is of good size, and composed of many divisions; the fruit is sweet, and of fine flavour; the usual colour is white or yellow, but there is a red variety.

60. *White Seedless Corinth*.—This is the smallest grape I have ever seen; white, round, sweet, and of delightful flavour; its size, appearance, and being seedless, make it particularly interesting; the bunch is long, winged, and regularly formed, the berries not being too compressed; it ripens early in September.

38. *Black Hamburg*.—It is this grape which is sometimes called the Hampton Court Vine, and which is recorded by Miller to have produced on that vine a ton weight of grapes in a single season. It is considered in England as one of the most uncertain to ripen out of doors. At Boston it is cultivated to a very considerable extent, principally in grape houses of a cheap construction, but in many instances in the open air. The markets of Boston are supplied with large quantities of the fruit, and the bunches average from 1 to 1½ lbs., and some have weighed 2 lbs. The Hon. John Lowell, of Roxbury, near Boston, has done much towards facilitating the extensive culture of this grape in that section of the Union, by erecting an extensive grape house on a cheap construction, thus demonstrating the facility with which success may be insured. In the vicinity of New-York, and south of it, this grape will need no such at-

tion, as it will mature its fruit with certainty in the open air. This grape, which is black, and inclining to oval, is remarkably fine flavoured; both the berries and bunches are extremely large, the latter being shouldered—the only fault is that the skin is rather thick; it is a great bearer, and much esteemed for that and its other qualities; ripens in September.

39. *Red Hamburg, or Gibraltar*.—The berries are dark red, skin thick, flesh juicy and delicate; the shape of the berry and form of the bunch both resemble the foregoing.

40. *Purple Madeira*.—This is a small pale purple grape, loosely set on long bunches; they have a vinous perfume and flavour when ripe, but are not suitable for the table.

41. *Brown, or Chocolate Coloured*.—This was received from France about thirty years since; the vine is of very vigorous growth, and a great bearer, and seems to suit our climate well, and to be as hardy as our native wild grapes; the fruit is oval, of a sprightly flavour, and the bunches large; it is an excellent wine grape, but in this vicinity ripens late, being at the end of September.

42. *Red Muscadet*.—The berries are very large, oval, of an equal size throughout the bunch, and of a beautiful red colour; the skin is thick, and the flesh hard.

43. *Tinturier, or the Dyer*.—This grape has characteristic distinctions not only in the form of its fruit and leaves, but also by the very deep red colour of its juice; the bunches are irregular, and with shoulders; the berries round, and of unequal size; the leaves deeply indented, and five lobed. It is cultivated for the colouring of other wines, and to dye silks of a deep red colour. The wine, when made separately of this grape, has a harsh and disagreeable taste; the berries are black, and of a round form. It has no less than ten names, Tinteau, Gros Noir, Noireau, &c.

44. *Black Spanish, Alicante, or Gros Noir d'Espagne*.—This grape has some resemblance to the preceding in the colour of its juice, but it is of a quality greatly superior for wine; both the berries and the bunches are larger, the wood stronger, and the leaf more broad. It is this grape from which port wine is made.

Gros Muscadet.—The colour of this grape is very peculiar, being between a white and a rose colour; the bunch is of moderate size, as well as the fruit, which is extremely sweet and luscious; it yields well, and the fruit ripens early in September. I consider it one of the most desirable grapes for the table which ripen at that period.

97. *Mestier*.—This grape, whose bunches of fruit at first view much resemble the Chasselas, and which in fact is called by that name in some vineyards of France, differs from it, however, in many respects. The fruit, which is yellowish, often contracts a russet appearance next the sun; its berries are round, not closely set, and ripen pretty well even in the north of France; its juice is pleasant and sweet; the leaf is quite palmated. This grape the author considers as nearly approaching the White Muscadine, and may possibly prove the same.

52. *White Sauvignon*.—Formerly many vineyards were almost wholly formed of this grape, but it is now more rare. Its high flavour gives to the wine a particular character, but being less productive, it has been latterly much neglected; the bunches are short, of medium size, and the berries yellowish white, with small dots when fully ripe; it is considered to be a variety of the Pineau or Burgundy.

Rochelle Noire.—This is a round black fruit, pretty pleasant to the taste, but in France principally cultivated for wine. It is remarkable for its elegant formed leaves, of a fine green above, and downy beneath. The *Rochelle Blanche* is similar to this, with the exception that the fruit is white.

238. *Perte*.—The berry is oblong, large, and white; the bunches have many small shoulders, and it would seem that it with difficulty supports the grapes which give it an oblong form.

212. *Folle Blanche*.—This grape is of medium size, thin skin, and berries closely set. Even when at perfect maturity it has a sweetish acid flavour not considered pleasant. It generally yields a great abundance, and is in high repute for making brandy; the berries are round and whitish.

77. *Verjus, or Bordelais*.—This grape does not ripen in the north or middle of France, but, in the vicinity of Bourdeaux, it comes to perfect maturity; the berries are oblong, quite large, and form very large divided or winged bunches; it is considered of value in the vineyards to mingle with other grapes; the leaves are large, and particularly sensible to frost. This grape, it is expected, will suit our country south of the Potowmac.

85. *Verdat*.—This is considered one of the sweetest and finest grapes for the desert, but, as it is from Languedoc, it will not mature its fruit in the vicinity of New-York, except in seasons particularly hot; the bunches are beautiful, with very large white berries, which have a thin skin, and contain

few seeds. It would be suitable to localities south of the Potowmac.

87. *L'yverdun, or L'éricé Noir*.—This grape, a native of Yverdun, Canton of Bern, Switzerland, flourishes in the most unfavourable situations as to soil and exposure. It is extensively cultivated in the north of the Department of Meuse, (France) lat. 49 deg. 30 min., and also in the Department of Meurthe. Even on the north side of hills, where no other grape will succeed, it is said to produce abundantly in seasons when other kinds are blighted. The berries are black, of an agreeable taste, and about the size of the Burgundy. Its wine is considered of a secondary quality, but is far superior to the harsh Spanish wines which are so much used here. I have had this grape under culture for four years, and have found it to be very hardy; indeed, I have never protected it, and it has been invariably uninjured. I consider this grape, and the other vines from Switzerland, and those from the vicinity of Mentz, lat. 50 deg. 10 min., where the Rhenish wines are made, as decidedly the best to be cultivated in the eastern states for the purpose of making wine. As for indulging the expectation, that the grapes of the south of France and Italy will flourish to the north of New-York, it is sacrificing all the plainest deductions of reason to an ephemeral indulgence of fancy.

185. *Red Swiss*.—This grape I received, with 11 other varieties, from the vicinity of Lausanne, in Switzerland. It is represented as an excellent grape for wine, and as yielding great and regular crops in unfavourable situations in that country; in fact, having made a request of my correspondent there, who owns a vineyard, and is a gentleman of extensive information, to send only those which are there cultivated with most success, he in consequence sent me 12 varieties of grapes which succeed there, among which this was mentioned as one of the best.

184. *Fondant Vert, or Green Melting*.—This also came from the same person as the above, and is highly spoken of. The whole number of those received from Switzerland will be found in the enumeration of grapes.

46. *White, or Hungarian Tokay, or Tokai Gris*.—The berries are somewhat oval, and closely set on the bunch, which is of moderate size; the skin is thin, and the flesh delicate, abounding with very agreeable juice. This vine is cultivated to the greatest extent in Hungary. The well known Tokay is raised on the last chain of the Carpathian

hills, in the neighbourhood of the town of Tokay. The district extends over a space of about 20 English miles. Throughout the whole of this country, it is the custom to collect the grapes which have become dry and sweet, like raisins, whilst hanging on the trees. They are gathered one by one; and it is from them alone that the prime Tokay, or, as it is termed, Tokay Ausbruch, is prepared, which, in 1807, sold for 100 florins the cask of 180 halbes, on the spot. They are first put together in a cask, in the bottom of which holes are bored to let that portion of the juice escape which will run from them without any pressure. This, which is called Tokay essence, is generally in small quantities, and very highly prized. The grapes are then put into a vat, and trampled with the bare feet, no greater pressure being permitted. To the squeezed mass is added an equal quantity of good wine, which is allowed to stand for 24 hours, and is then strained. This juice, except in Tokay, is difficult to be obtained, and sells in Vienna at the rate of £12 sterling per dozen. The greater part of these vineyards is the property of the emperor; several, however, are in the hands of the nobles.

Another species of Hungarian wine, called Mineser, is said to equal Tokay; next to that in value comes the wines of Edinburgh, Rush, St. Gyorgy, and Ofen, followed by a great variety, whose names are as various as the hills which produce them. The grapes which are preferred for making the Tokay, and the other Hungarian wines of that character, are the White Tokay, or Tokai Gris, and the Blue and Black Tokay; the Blue is figured and described by Sickler, in his Garten Magazine of 1804, as the Hungarian Blue.

181. *Verdilhio*.—This is well known to be the grape which gives strength and body to the wines of Madeira, and is generally considered the best wine grape of that island. It may rather, in point of ripening, be considered an early fruit. I received this, the Nigrinho, the Tinto, and the Violet, from a wine house of high repute in Madeira, and they stated to me, that these were the finest grapes known there for the making of wines.

Black Madeira—This grape I received direct from Madeira; it produces abundantly, and is one of those that agree best with our climate; the fruit is very juicy, and of a pleasant flavour, and seems well calculated both for wine and the table; it ripens in August. This grape I have found to be so nearly allied to the Meunier, that, in my last Cau-

logue, I arranged it as a synonym of that grape. I only mention it here to give place to the remark, that having received it from that island, seems to prove that this grape is also one of the varieties which, united, produce the Madeira wine.

Black Lombardy.—This grape was brought to this country from Holland. I am indebted to N. H. Bridge, Esq., residing near Boston, from whom I received this grape, for the following description:—"They are very large, nearly round, and black; the clusters very large and beautiful to the eye, but the fruit is not so rich as the Black Hamburg; they are easily cultivated, not taking the mildew so readily."—"The bunches of this grape are shouldered, and some of the largest have weighed from 1½ to 1¾ lbs."

105. *Isabella Grape.*—This is an American grape, a native of Dorchester, South-Carolina, and was introduced to this state by Mrs. Isabella Gibbs, the lady of George Gibbs, Esq., of St. Augustine, who then resided at Brooklyn, Long-Island, and, in honour of that lady, has been called Isabella Grape. It is a dark-purple fruit, of a large size, oval form, and juicy, and equals some of the European wine grapes; and, for vigour of growth, and an abundant yield, exceeds any other yet cultivated in this country, and requires no protection during the winter season. General Joseph Swift, of New-York, informed me, that a single vine in his garden produced above eight bushels during several successive seasons. This grape promises to take an important stand in this country for the purpose of making wine, as it possesses all the requisites to insure success in making wine of a fair quality, or for making brandy equal to that of France. I have made wine from it which far excels any American wines I have ever yet tasted, and which has met the same decision from some of the most accurate judges in our country. Indeed, this grape, of which but a single vine existed in any garden in 1816, and which I, at that time, met with in the possession of the gentleman before mentioned, and deemed worthy of notice and a name, has now become disseminated to the remotest parts of the Union, and been sent to a number of the countries of Europe. And although it has never been offered to the public as on an equality with the highly cultivated and delicious table grapes of France, still it offers to any one who chooses to plant it a plentiful crop of pleasant fruit, without requiring from him the least care, or needing in winter the least protection, however cold

may be its situation. I have also ascertained, that the bunches may be dried, as raisins, with the greatest facility, and that they may be preserved in dry sand, sawdust, or any other similar substance, for many months, in the most perfect state.

106. *Scuppernong*.—The most perfect account of this grape that I recollect to have seen, is from the pen of James G. Hall, Esq., of Currituck, North-Carolina, and published in vol. ix. No. 18, of the *American Farmer*; and, as this grape is more particularly cultivated in that region of country, I give some remarks, extracted from his communication, in preference to my own. This grape (he states) is a native of the north-eastern part of North-Carolina, and grows spontaneously on Roanoke-Island, and in its vicinity, and formerly was called the Roanoke Grape; but, as its excellence as a wine grape was first tested at Scuppernong, the grape has obtained that name abroad. The particular excellence of it is the richness of the grape, and the longevity and hardness of the vine. The vines in North-Carolina are never pruned, and receive little attention otherwise. If they were pruned, and properly attended to, he considers a far greater abundance of fruit would be produced. The grape is round, white, very sweet, and of a good size; the latter circumstance depending much on the vigour of the vine. They are pleasant for the table, and contain a large quantity of saccharine matter, so happily united with the acids of the fruit, as to render them finely flavoured for the palate, and highly prized for wine. It is the opinion of many intelligent persons, that the Scuppernong, or Roanoke wine, has a richness and a peculiarly fine flavour unknown in the foreign wines which reach this country. The fruit ripens about the last of September or the first of October. The wood of this vine is very peculiar for its greyish appearance, and is very small in its growth; the leaves are smooth, and it blossoms in June. All its advantages considered, it promises, at no distant day, to form the basis of innumerable vineyards in different sections of the country.

111. *Bland's Grape*.—This is a round grape, of a pale red colour, middle size, and very pleasant flavour; it is an agreeable table fruit, and is also a wine grape of very superior order to the Alexander, and many others cultivated as such; indeed, a person has but once to taste this grape to form his decision on this point. It has been supposed, for many years, to be a native of Virginia, and its origin has been

the subject of much comment. To those who feel interested on this point, I have the pleasure to state, that I am at present in possession of information which I consider will set that matter at rest to the satisfaction of every one, and which will be brought forward in a subsequent publication.

107. *Alexander's, or Schuylkill Muscadel*.—This grape, which has been erroneously called, at the Spring Mill vineyard, and at Philadelphia, the *Constantia*, or *Cape of Good Hope Grape*, is unquestionably a native of our own country, and originated in the vicinity of Philadelphia. The berries are black when fully ripe, sweet, and of a slight musky flavour, but contain a pulp. Wine of a fair quality has been made from this grape in different sections of the Union; and Mr. Adlum, of the District of Columbia, and a number of other gentlemen, have succeeded in making from it wine of quite a pleasant flavour. I have also in my possession some wine made from it several years old, but find it inferior to that made from the *Isabella Grape*. It seems proper here to remark, that Mr. Adlum makes a distinction between the *Alexander's, or Schuylkill Muscadel*, and the *Spring Mill Constantia*. The leaves, he states, are very similar, but there is a difference in the appearance of the clusters of fruit, the latter being the handsomest; both have a pulp, and the *Alexander's* has a little of the *Fox Grape* flavour, but the *Spring Mill Constantia* has none of it; it is sweet, without any musky flavour. Mr. Adlum, however, considers both as American grapes. The author has cultivated them separately, so that amateurs might gratify themselves by contrasting the two in their experiments.

Nuckacker's.—This is a very luxuriant growing vine, a native of the country, but is not considered productive.

Adlum's Late White.—This is considered one of the hardiest white grapes. It was discovered in the vicinity of Georgetown, District of Columbia, where the original now remains. It is a great bearer; the clusters are very long, and hang on the vine till Christmas; the berries are not large, and the fruit is not considered pleasant until after frost. It is called, by Mr. Adlum, the *Muscat*.

110. *Catawba*.—This is a large grape, of a lilac colour, and, in some situations, covered with a beautiful bloom, giving to them a blueish purple appearance. They have a slight musky taste, and delicate flavour; hang loosely on the bunches, which are of good size; and, in fact, they are beautiful to the eye, very abundant bearers, make an excellent

wine, and are tolerable for the table. Although this grape is said to be from the river Catawba, still there is much uncertainty on that point—as I am informed by Thomas M'Call, Esq., of Georgia, a gentleman now far advanced in years, that, in his boyhood, he knew the Catawba from its source, to where it loses its name in that of the Wateree, and that no such grape was known there. Mr Adlum states, that he procured it from a Mr. Scholl, at Clarksburg, Montgomery county, Maryland, and that it was called by this name by that gentleman. The grape called, by Mr. Adlum, Red Muncy, and found by him wild in Maryland, has proved to be the same as the Catawba. Mr. A. considers this grape "to be worth all others, indigenous or exotic, as a wine grape."

108. *Orwigsburg*.—The highest authority for information, relative to this grape, is that of Dr. William Hulings, who named it, and brought it into notice. That gentleman, at first, thought it decidedly an indigenous fruit; he now considers it probably may be only an American *variety* of a foreign grape; and in this latter opinion I concur, on account of the appearance of the foliage, and the general growth of the vine; the flavour is excellent, it is very juicy, and extremely productive, consequently is very worthy of cultivation; the colour is white, the skin thin, berries larger than the Meunier, and quite sweet; the wood of this grape ripens well, and the vine is very hardy. It was found growing in a wild state, in Schuylkill county, about three miles from Orwigsburg; it ripens in September.

Missouri Seedling.—The fruit is as sweet as the Meunier, and has not more seeds; its appearance is similar to the Elsingburg; some of the grapes of that region have been found to have a superabundance of seeds, from which this is free. This grape may, by culture, prove a valuable acquisition, but being new, its various qualifications remain to be tested.

119. *Long's Arkansa*.—This grape, which was found by Major Long on or near the Rocky Mountains, possesses foliage so very peculiar as to distinguish it from all others I have seen. The leaves are deeply indented on the edges, the wood rather delicate in point of thickness, but surpassing every other, except the *Vitis riparia*, in its rapid growth, and overrunning every thing in its vicinity. The fruit, however, is small, sour, very full of seeds, and will not bear comparison with the Missouri, and other American

grapes. This, and the Isabella, are considered to be the best to use as stocks to ingraft on.

117. *Lusborough*.—This is a Fox grape, found about two and a half miles from Georgetown, District of Columbia. It is larger and better than the Elkton, and has a very rich appearance.

118. *Muncy*.—This grape was discovered in Lycoming county, Pennsylvania, and also in Maryland. The fruit is of a pale red colour, and hangs loosely on the bunches; they are of good size, and ripen late—the fruit is sweeter than many native grapes, and the vine is productive. It is considered by Mr. Adlum, of Columbia, quite an acquisition to our collection of American grapes, as being capable of producing excellent wine. This grape has, by close comparison, been found so similar to the Catawba, as not to be distinguished; which would seem to favour the idea, that the Catawba did not originate in Georgia, but is, in fact, a native of Maryland.

109. *Eltingburg, or Ellsborough*.—This grape was found near the town whose name it bears, in Salem county, New-Jersey, where it would probably have remained unregarded, had it not been brought into notice and cultivation by Dr. Hulings. It is a very sweet, juicy fruit, and of a blue colour; it is very hardy, exceedingly productive, and promises to be valuable for wine; the bunches are of middle size, and the berries hang loosely; it ripens at the same time as the Meunier, and is free from pulp or musky taste, and has generally but two seeds. It is undoubtedly a native, all the characteristics of which it bears. Its wood resembles that of the Isabella: but the fruit approximates more to the Meunier of France than any other American grape.

Raisin du Cote.—Of this grape, a native of Louisiana, there are two varieties, which are found through a vast extent of territory, from the Atacapas to the Missouri. The variety, or species, most known, is dark blue, and round; skin rather thick, and the fruit somewhat pulpy—extremely sweet, and not musky.

Louisianan Dwarf.—I have received a grape from Upper Louisiana, which I have named as above. The person who sent it states, that they do not run much to vines, but grow about three or four feet high, and then bend over, and fall to the ground; and that they produce a great abundance of very good grapes. I have also received a number of vines from Texas, whose characters are yet unknown to me.

112. *Worthington*.—This is a native, found near Annapolis, Maryland. It is of middle size, and black; it yields a high coloured juice, is a very great bearer, and, by some, is considerably esteemed; the juice has been used to mix with that of other grapes in making wine, to which it imparts a fine colour, and a good flavour.

113. *Elkton*.—A very large native Fox grape, of a deep purple colour, with beautiful crimson coloured juice; the fruit quite fragrant. It has been considered, by some, as capable of making good wine, though I do not know that the experiment has been tried.

116. *Columbia*.—This grape was found, by Mr. Adlum, on his farm, at Georgetown. The bunches are small, and the fruit deep purple, approaching to black, and about the size of a small Fox grape, but have not that peculiar scent which Fox grapes possess; it is quite sweet, and yields a high coloured juice; in rich grounds its shoots are as strong, and its leaves as large, as the *Isabella*

Warrenton.—This grape, a native of Warren county, Georgia, was sent to me by my esteemed correspondent, Thomas M'Call, Esq., and is also cultivated by the Hon. Mr. Milledge, of that state. It yields excellent wine, and its juice is white. I am informed, by Mr. M'Call, that the first pipe of American wine was made at New-Bourdeaux, Georgia, by Christopher Gerb, one of a company of vine-dressers, who, under Mr. L. de St. Pierre, settled that town-ship, about the year 1770.

Red Fox.—The fruit is large, round, and of a brick red colour; it has a hard pulp, and not a great deal of juice, but is very odorous or musky; it makes the most exquisite confectionary, in the form of jelly—this is made with an equality of sugar, the fruit being strained to separate the skins and seeds—(water with it of course)—it must then be evaporated slowly, until of the proper consistence; the flavour of the jelly is rich, and delicately musky.

CULTIVATION OF GRAPES.

Soil and Situation.

The grape delights in a deep light soil, where the roots can penetrate to a great depth with perfect facility. It flourishes in gravelly soils, where the land is rich and not heavy, and will even scarcely fail to grow vigorously in any land, except a hard clay. The ground should, however,

be made perfectly mellow to the depth of two feet, and if not naturally rich, should be made so with old well rotted stable or cow-yard manure, the latter always preferable. The situation should have a southern aspect; an eastern aspect is found to render the fruit and foliage most liable to mildew, and a south-west exposure is found to be preferable to all others.

Transplanting.

Either the spring or autumn answer for transplanting vines, but the latter is the preferable season. In removing the vines, it is necessary to keep the roots moist from the time they are taken up until replanted. Let the holes be dug two feet deep, and the same square, and some well rotted cow-yard or stable manure be incorporated with the earth that is filled in around them, and let them be watered as soon as they are planted.

Pruning of Young Vines.

In the arts of Horticulture, I have never taken as a positive guide the rules of any other country—convinced, as I am, that the exercise of common sense reasoning, will bring one to the best conclusions as to the course to be pursued. Thus, with regard to grapes, as the small lateral branches are for the most part unproductive, and as their absorption of a vast portion of sap, which ought to pass into the main and fruit bearing branches, renders them worse than useless, they should be in no way encouraged farther than is absolutely necessary to the safety of the vine. The first year, therefore, I would only allow one, or at most two, shoots to grow; and an examination for this purpose should commence as soon as the scions begin to shoot, leaving only one of the most promising, and rubbing or pruning off the rest; and this should be carefully pursued every two weeks throughout the season, during which period, every lateral branch should be quickly taken off, as they not only impoverish the main shoots, but greatly prevent the wood from ripening. In October, or November, this shoot should be shortened to about three or four eyes, according to the strength of the plant, and where very weak, it would be best to leave but two eyes. Your pruning should invariably be done in the fall, or very early in the winter.

After having completed your fall pruning, if your vines are of the more delicate kinds, you can proceed to cover them as hereafter directed; but if they are of the hardy description, they will need no farther attention till the spring.

At the opening of the second season, the young vines should have the earth carefully loosened around them, but not so as to injure the roots. During the second summer, there will be no further attention necessary, but to keep down the lateral shoots; in doing which, you should proceed thus:—Having left two of the most promising shoots, and rubbed off all the others, continue to examine the vines every two or three weeks, and carefully prune off all lateral shoots whatever, throughout the season; in doing which, I have found it of advantage, where the lateral shoot was strong, to leave the first joint remaining, that it may take off the superfluous sap, and prevent the bursting of the main bud, which should not push out till the ensuing season. These single joints thus left remaining, can be altogether taken off at the final pruning in autumn. This course will bring you to the conclusion of the second season, when, in October or November, you should proceed to prune them down, as follows:—To the very strong ones, I would leave eight buds; to those less so, six; and, to those which still seem quite weak, from three to four buds, according to your own judgment on the subject. The third and subsequent years, no further directions are necessary, than to prune them frequently and sufficiently, so as to stop, at all times, the lateral branches, where they are calculated to impoverish the vine without any manifest advantage; in a word, to force by art into the main branches of the vines that sap which, without such aid, would be lost in superfluous, weak, and useless branches. It will be seen by the foregoing directions, that the culture of the vine is in no wise difficult; for any person of the least information, having a single vine pruned, may, with the greatest ease, pursue the same course, without deviation, through a whole vineyard. It is, therefore, a culture, where one head can serve to direct a large number, and where, after once instructed, no after difficulties need ensue; and this consideration, in connexion with the peculiar situation of the labouring population of the southern states, is calculated to insure success in that quarter. All those desirous of pursuing this culture, may rest assured, that the numerous difficulties which have been thrilled in

our ears, for the thousandth time, only exist in the brains of those who have propagated them.

Training.

Lattice fences, five feet high, ranged north and south, and at a distance of six feet from each other, answer extremely well for vines, which should be planted along them at the distance of from six to eight feet asunder. On these fences the shoots should be trained in a horizontal or oblique direction, and each branch singly, so as to allow the air to pass freely through, and cause the wood to ripen well, on which invariably depends the success of the ensuing crop. At Thomery, a town near Paris, celebrated for its fine grapes, the vines are trained on trellices eight feet high. These lattices possess this advantage, that the sun can shine on both sides of the vines in the course of the day, and that they allow a free passage to the air, which is of great benefit as well in maturing the fruit, as in ripening the wood. In those parts of France, however, where the culture of the vine is carried to so great an extent, a very simple mode is pursued, which is, to place two poles to each vine, and to train up two shoots to each of the poles. This method will be found advantageous in this country on the principle of economy, when it is contemplated to establish extensive vineyards—and this is the course which will doubtless be pursued in the vineyards now establishing throughout our country.

Protection, &c.

It is preferable in winter to protect some kinds of foreign grapes in the following manner, though there are many which do not require it:—In the course of the month of November, a few days after they have been trimmed according to the above directions, bend each vine gently down, and if long, form it into a coil, then stake it to keep it in its place; after this, proceed to cover it with earth or litter, hilling the earth up well around, and sloping it to cast off the rain. In the beginning of April, they must be carefully uncovered, and trained along the lattices designed for them, or tied up to the poles in such a way that the branches are kept separate from each other, and, if it is the first season after transplanting, allow but three or four of the most vigorous buds to grow; and rub off the others. It has been urged, by some, that the

necessity for covering some kinds of vines in our northern states, precluded their culture for the purpose of making wine; but it must have been unknown to them, that the vineyards in some parts of Germany, where large quantities of wine are made, are treated in this manner. However, even this objection may be remedied, by planting only those vines which are cultivated in the north of France, and which there withstand, without protection, a degree of cold full as great as that of the middle states; the new varieties which have originated in our own country, bid fair also to do away every difficulty on this point. It has been considered, by many, that those grapes which require protection, when quite young, will continue to require it; which is not, however, generally the case, for many varieties which need protection the first, and perhaps the second winter, will succeed without a continuance of it. The ground around the vines must be kept mellow, and free from grass and weeds; and, every autumn, immediately after pruning them, it will be necessary to have from two to four shovelfull of old well rotted manure dug in around each vine. It is to be understood, that the directions for covering the vines during the winter, and the selections of early fruit, &c. are only necessary for the climate north of the Potowmac; for, in the more southern states, no protection of course is necessary, and all the later kinds of grapes may be cultivated with every reasonable prospect of success; but all the other directions relative to pruning, training, manuring, &c. will be found necessary as well in a southern as in a northern clime.

Propagation of Grapes.

Grapes may be propagated from cuttings, layers, or seeds; the former, however, is the customary mode both in France and elsewhere. For this purpose, you should select well ripened wood, of the growth of the previous season, and form it into lengths, containing from three to four joints—as to their exact length it is of no consequence—but the lower end, or base of the cutting, should be just below a joint. Being thus prepared, about the month of November, a hole can be made in sandy soil, so deep as to be out of the reach of frost, where they can be placed, with a layer of sand or other earth, between each layer of scions, and in this situation they can safely remain till the middle of March, or the beginning of April, when they can be taken out and soaked

for some hours in water, to refresh them previously to planting. You can then proceed to plant them in the places designed for them, which may either be in nursery rows, whence they can be transplanted afterwards to the places finally allotted to them, or at once into their permanent situations. If intended for a vineyard, they should be planted at the distance of six feet each way, after the ground has been properly prepared; from two to three scions should be set in each place thus laid out, the uppermost bud of the scion alone to remain above ground—and I consider it preferable, that two scions should be left to grow, and the third, if it should not fail, (which there is fair reasons to suppose it may,) can be transplanted or destroyed. By planting an extra number of scions, you secure yourself against the injury resulting from failure, and you increase the chance of a successful growth three to one; and the value of the extra scions is nothing, when compared with the time that might be lost, and the disappointment that often ensues, from planting single scions.

Produce of Vineyards.

The estimated quantity of wine produced in France, annually, is 10 millions of casks, averaging 60 gallons each, which is computed to occupy two millions of arpents of land. Much of this land is of a very inferior quality, being sides of hills, gravelly soils, &c.; in fact, such as, in many cases, would be unsuitable for other culture. This quantity of wine, valued at 50 francs (about \$10 the cask or hogshead, would amount to a sum three times as great as the medium value of the whole cotton crop of the United States for the years 1818 or 1819. When, in connexion with these reflections, we consider, as Americans, how much tribute we at present pay to foreign nations in the purchase of wines; when those equally good, and yielding equal profit to the cultivator, can without doubt be produced within our own country; when, in fact, a small portion only of the lands that now lie useless and uncultivated, could be made by attention to save to the nation not only the immense sums at present paid for the importations, but, by the culture being sufficiently extended, might render it an article whose exportation could be made a source of revenue to our country, not even secondary to our export of cotton. To what conclusions does it not irresistibly bring the mind. Much stress has been laid on the circumstance of particular soils, and

particular exposure. On these points, even were attention to them positively necessary in all cases, the immense extent of our country would afford ample facilities; but in France, it appears, every situation is turned to account for this purpose—for A. Young, Esq., relates, in his travels through that country, that every variety of soil, from a heavy clay to a light blowing sand, and all exposures whatever; and every situation, from a perfect level to the steepest hills, produce profitable crops of grapes: for, where their quality is not suitable for the finer wines, they are made use of for distillation into brandy, and it is the refuse wines, in a great measure, that are used for the latter purpose. In fact, intelligent men can no longer doubt that the introduction of the vine into extensive culture, although there may be numerous failures at first, under peculiar circumstances, must finally result in the absolute independence of this country for its supply of wines; and that in time, and with perseverance, the United States will enjoy in abundance that most wholesome and pleasant beverage, to the exclusion of ardent spirits, so destructive to the health, and ruinous to the morals, of its inhabitants.

It has also been remarked, that the most delicious wines of France never reach this country, as they are said not to bear a transportation across the Atlantic, and that it is those wines only, whose excellence is greatly lessened by adulteration with brandy, and other mixtures, and which principally consist of the harsher wines of Europe, to which we shall be necessarily restricted, until we can rival the finer wines of France, Spain, and Italy, by the produce of our own territory.

Varieties.

Every Department of France cultivates its particular varieties, and such as are there found to succeed best; but it is considered that much improvement might be made in the vineyards of certain Departments, by the introduction of the finer varieties from others; which course, however, is greatly neglected, and the continuance of the culture of the same vines is so much a matter of habit, that the improvements above referred to are but partially acted upon. And when great precautions are deemed necessary in the selection of vines for different localities in that country, where it has attained to such a height of perfection, it may easily be

inferred, how necessary it is for us, in commencing the formation of our vineyards, to make our selections with great judgment and circumspection.

It has been the folly of many persons to send to Paris for every French fruit, and to send to London for every English one, without considering that they were much more certain to obtain them with accuracy from other quarters. The Government Garden of the Luxembourg, it is true, contained a very great variety of the grape, but that establishment has been discontinued, and the collection no longer exists. At present there is no extensive collection of the grape at Paris, although some persons there will not fail to execute an order for every variety which may be demanded: for I have received the same grape, in one invoice, under no less than ten different names—in consequence of which, some years since, I totally discontinued all my importations from that quarter.

Above one hundred varieties of the grape, enumerated in the Catalogue recently published, have produced fruit, and have been tested to my ample satisfaction; and all others there mentioned have been obtained from persons who have dealt most honourably with me, in regard to other importations, and on whose confidence I can fully rely. And I am happy to say, that time and experience has taught me to make those discriminations, and brought me into correspondence with those who are above deception. ●

I will now proceed to state the European grapes under the following heads:—

*Grapes of Germany, Switzerland, and the north of France ;
Grapes of the middle of France ; and Grapes of the
south of France.* —

This arrangement will aid those in this country who wish to make selections for their respective localities.

GRAPES cultivated in Germany, Switzerland, and the north of France.

w designates the white or yellow, and *d* the coloured grapes. The numbers refer to the enumeration in the author's Catalogue.

- Alexandrie noir, *d*
 143. L'Allemand, facun
 144. L'Allemand, rouge, *d*
 187. Aspirant blanc, *seedless, w*
 68. Auvernat blanc, or pineau, *w*
 70. gris, or pineau, *w*
 189. rouge claire, *d*
 Bourdela de Jura, *d*
 Burger, *w*
 206. Chopine, *w*
 40. Ciutat, or raisin d'Autriche, *w*
 Corinthe la grande
 60. Corinthe la petite, *seedless, w*
 133. Feldlinger, *d*
 184. Fondant vert, *w*
 141. Frankenthaler, or gros noir, *d*
 Gamet noir, *d*
 216. Gommier violet, *d*
 215. Gouais petit, *w*
 Grand khefner
 224. Kishmish, or Uva passa bianca, *w*
 167. Kni perlé, *w*
 87. L'Yverdun, or l'éricé noir, *d*
 97. Meslier blanc, *w*
 229. Melon de Jura, *d*
 6. Meunier, *d*
 1. Morillon hatif, *d*
 3. noir, *d*
 80. panaché, or Aleppo, *striped*
 Muller reben
 235. Negret, *d*
 145. Olwer, *whose wine is said to be a valuable remedy for the gravel*
 146. Ortliebscher, *much esteemed*
 7. Pineau noir, *d*
 Pineau franc, *d*
 Raisin perlé, *w*

- Raisin vert, *w*
 248 Raisin suisse, *d*
 147 Rauschling le grand
 246 Rauschling le petit
 185. Red Swiss, *d*
 148. Riessling, Clairette de Limoux, *w*
 149. Riessling le grand
 142. Rothe hintche, *d*
 53. St. Pierre blanc ou Moscow, *w*
 136. Teinturier, *d*
 46. Tokai gris d'Hongarie, or Tokai blanc, *w*
 48. bleu, *d*
 noir, *d*
 168. Weiss klefeln blanc, *w*
 Weiss-klefeln gris, *grey*

I have the best authority for stating, that these grapes (above enumerated) mature their fruits for the table, or for wine, on the borders of the Rhine; and I have further to remark, that every grape in my Catalogue, from No. 186 to No. 257, with but one exception, were obtained by me from that locality, under the impression, as stated hereafter, that although many of them were originally from the more southern parts of France, yet their having been a long time cultivated in the northern Departments, had, in a measure, naturalized them to a climate more allied to the northern and middle states of our Union. The different varieties of the Chasselas, and of the Muscat or Frontignac, are also cultivated there, but need favourable situations to mature their fruit.

GRAPES cultivated in the middle of France.

N. B All the preceding varieties of Germany and the north of France will, of course, flourish here; but the following are the most extensively cultivated.

190. Aligoté, *w*
 187. Aspirant blanc, *d*
 194. Bordelais
 98. Bourguignon noir, *d*
 195. Blussard blanc, *w*
 26. Chasselas blanc, or White, *w*
 35. doré, or golden, *w*
 27. rouge, or red, *d*

29. Chasselas musquée, or musk, *w*
 40. Cioutat, ou raisin d'Autriche
 60. Corinthe blanc, *seedless, w*
 135. Epicer, *large, d*
 212. Folle blanche, *w*
 Gamet noir, *d*
 Gouais noir, or petit gamé, *d*
 214. Gouais blanc, *w*
 100. Gris méle
 217. Grand blanc, *w*
 120. Gros Maroc, large Morocco, or Turkish, *d*
 Orleans, *w*
 Muscadet, *grey*
 222. Jacobin
 223. Kilian blanc, *w*
 134. Malvoisie rouge d'Italie, *d*
 Mansard
 97. Meslier, *w*
 6. Meunier, or Fromanté, *d*
 1. Morillon hatif, or Madeleine, *d*
 3. noir, *d*
 89. blanc, *w*
 80. panaché, or striped Aleppo
 13. Muscat blanc, or white Frontignac, *w*
 17. violet, or violet do. *d*
 15. noir, or black do. *d*
 16. rouge, or red do. *d*
 14. gris, or grizzly do.
236. Nerré, *d*
 238. Perlé, diamant, *w*
 Pernan, *d*
 162. Piquant paul, *w*
 68. Pineau blanc, or Bourguignon blanc, *w*
 70. gris, or petit Muscadet, *grey*
 7. noir, *d*
 franc, *d*
 249. Raisin de Génes, *d*
 Rochelle blanche, *w*
 138. Rochelle noire, *d*
 Saint Marillo
 251. San Moireau, *d*
 52. Sauvignon blanc, *w*
 136. Teinturier, or Moireau, *d*
 77. Verjus, or Agyras, *d*

GRAPES cultivated in the south of France.

In this favoured region every grape will flourish; consequently no distinctions need be made on that point. I will, however, designate those which there hold the first rank as table grapes, to distinguish them from the varieties cultivated for wine, and arrange them according to colour and form.

Black round grapes.

- 120. Gros Maroc, or Raisin Turc
- 121. Marroquin, or Espagnin
- 11. Morillon hatif
- 15. Muscat noir
Peyran noir
- 122. Raisin prune
- 123. Terré moureau noir
- 124. Terré de barti noir
- 125. Ugne noir

Black oval grapes.

- 126. Aspirant
Grand Guillaume
- 17. Muscat violet
- 127. Olivette noire
Ouliven
Raisin noir de pagez
Ulliade

White, or yellow oval grapes.

- 150. Calitor blanc
- 151. Clarette blanche
- 152. Columbau
- 56. Cornichon blanc
- 153. Dure peau
- 154. Galet blanc
- 155. Jouannen blanc
- 18. Muscat d'Alexandrie
- 156. Olivette blanche
- 237. Panse commune
- 96. Panse musquée
- 157. Picardan
Raisin blanc de pages
Raisin des dames

White and yellow round grapes.

- 158 Augibert blanc
 35. Chasselas doré
 de Tomery
 de la Magdeléne
 29. musquée
 40. Cioutat, or Raisin d'Autriche
 159. Clarette ronde
 60. Corinthe sans pepins
 160. Doucinelle
 13. Muscat blanc de Frontignac
 Raisin de Notre Dame
 161. Ugne blanche
 Lombarde
 de Malade

Grey, or violet oval grapes.

128. Clarette rose
 129. Damas violet
 130. Tres dur ou de poche
 131. Martinen

Grey, or violet round grapes.

202. Chasselas royal
 132. Grec rose
 14. Muscat gris
 Plant de la barre rouge
 Ugne de Marseille

American wine grapes.

It is the opinion of Mr. Adlum, who has made many experiments with the American varieties, that for the purpose of making wine, the Catawba stands *first*, the Bland *second*, and the Alexander, or Schuylkill, *third*; but, at the time this opinion was expressed, he had not made any experiments with the Isabella, which I had just introduced to notice. At the present period, having made wine from the Isabella, which has been considered by myself, and by some of the most intelligent men in our country, *unrivalled as American wine*, I cannot withhold my opinion, that it stands *pre-eminent* for that purpose—after which I accord with Mr. A. as to the respective rank in which he has placed the

other three varieties referred to, with the exception, that the merits of the Scuppernon being less known both to him and myself, we give no ultimate opinion with regard to that grape.

Juices of the grape.

It is stated by some writers, that no very sweet grape will make good wine, because they are found deficient in tartaric acid, and the juice is too dense to ferment well; that no very tart grape will make good wine, because, if saturated with sugar, the must will be too dense, the fermentation consequently imperfect, and the wine will be both sweet and tart. There must be a just proportion of the respective qualities. Very sweet, luscious, and high flavoured grapes, are necessary to mix with others less sweet and flavoured, in making wine—as they substitute the saccharine quality, and impart an artificial flavour, which easily approximates, being so nearly allied by natural production.

Naturalization of grapes.

It must be well known that many varieties of the grape, which were originally produced in the southern and middle Departments of France, have been, by long culture, acclimated to localities far north of where they originated. This gives rise to a particular consideration as regards our imports of vines from that country. Shall we obtain them from the most southern or from the northern Departments? My opinion on the subject is this—If desired only for culture in our southern states, it is a matter of no moment whence we derive them; but if intended for vineyards in the middle and northern states, it is far preferable to obtain them from the most northern locality to which time and culture has naturalized them—as by this means we gain the advantage of that time and culture. Impressed with this idea, I have obtained, from the most northern Department of France, bordering on the Rhine, 170 varieties of grapes, including many which originated in the south and middle of France; also, from Germany, the finest wine and table grapes they possess; from the middle of France, such as are there extensively cultivated and highly valued; and, from the south of France, I have received the whole number of their choicest table grapes, amounting to 53 kinds, and also

these most highly esteemed for wine. In fact, viewing the introduction of the vine to be an object of national importance, I have, regardless of extra expense, and extra trouble, obtained the different varieties under such circumstances, and from such localities, as I considered calculated to render the most permanent benefit to the country at large.

Concluding Remarks.

It is a subject of gratulation that the public attention seems so fully drawn to the culture of the grape. It was not till after immense difficulties that the grape was brought to its present state of successful culture in France; and it should be no cause for discouragement, if some experiments are made in this country without the anticipated success. In fact, so many causes exist where an error in judgment, or the want of the necessary information, may produce a failure, that it would be a miracle if all were to succeed. Already, for years, has the vine been most successfully cultivated on the Rhine; and in latitude 50 degrees, the most choice Rhenish wines are made. Recent accounts tell us of vineyards having been successfully established in the more northern parts of Germany, and in high latitudes in Russia; and the Swiss have been, for a course of years, most plentifully supplied with wine from their own soil. Shall, then, America alone be debarred from this, one of the bountiful gifts of nature? Shall a country, possessing every variety of climate which is combined in all the wine countries of Europe, and extending through all the degrees of latitude which are there deemed the most genial to its growth and produce, be said to be totally inappropriate to its success? Shall it be said that a plant, which culture has accommodated to almost every other clime to which it has been introduced, can find no spot whereon to flourish, in a country extending from the 25th to the 47th degree of latitude, and that we can boast no such congenial soil in an empire, whose bounds are the St. Lawrence and the Gulf of Mexico, and whose settlements already extend from the shores of the Atlantic to the sources of the Missouri? It is high time such delusions of blinded theorists should give way to the lights of reason and of judgment, and that the culture of the vine, to every variety of which we have a soil and climate suitable to offer, should assume that importance to which it has already attained in countries pos-

nessing comparatively few advantages. Let, then, the beams of intelligence, which are imparting so much benefit to mankind by their wide diffusion, disperse these clouds of ignorance and error from the enlightened horticulturists of the American republic!

STRAWBERRIES.

Soil and Situation.

The situation should be an open exposure, but somewhat sheltered from the excessive heat of noonday. Moisture, and a degree of shade, are natural to this plant, as may be inferred from the situations it occupies in a wild state. A sandy soil may cause an earlier maturity of the fruit, but will not be conducive to an abundant yield. A light rich loam is considered the most favourable, being soft and pliable, so that the runners may easily penetrate it with their roots. A mixture of bog earth is found advantageous; and, in enriching the soil, cold manures are to be used. In the southern states, I should consider the best situations for this plant to be the north sides of hills, or the shady borders on the north side of a garden fence, or a hedge. The plantations in the vicinity of New-York, and which furnish that city with this fruit, are generally made, by plain farmers, on good loamy soils, which are light and mellow, and occupy open and unsheltered fields. The yield from them is immense, and they are considered among the most advantageous appropriations of the soil.

Forming Beds.

The most favourable season to form beds is in September or October, which gives the plants sufficient time to establish themselves, and become well rooted before the ground freezes, and thereby prevents their being thrown out by the winter frosts. In forming these beds, you should select strong and vigorous runners, or off-sets, in preference to taking old plants; these may be placed in beds from three to four feet wide, and from ten to twelve inches apart each way, according to the extent to which the variety usually expands in its growth. Most varieties do best when allowed to run together, so as to form a complete matt—as in this case one forms a shelter for the other from excessive heat—

but where the fruit is desired of the largest possible size, the plants must be kept distinct, and at the distance of one foot asunder, and the runners should be cut off as fast as they appear. By some persons it is recommended to make plantations in the autumn, as before stated, and to keep them divested of all runners till after the maturity of the fruit the ensuing season.

As beds of strawberries generally want renewing every two or three years, it will be necessary, in forming the new beds, to select the plants in the proportion of nine bearing plants to one barren; and, in order to do this with certainty, it will be best to mark them when in fruit. If, however, your beds are not encumbered with a superfluous number of barren plants, this precaution will not be indispensably necessary; though it is generally requisite with the varieties of Hautbois, the Red Chili, Pine Apple, and some others, which are apt to produce a great proportion of barren plants—and even, without proper attention, beds of these, and of some other kinds, will become almost totally unproductive.

With respect to the varieties of the Alpine, or Monthly, it is preferable to form new beds every autumn, as the runners of the previous year produce a much greater quantity of fruit than the old plants.

I will now proceed to describe some of the varieties.

1. *Scarlet Virginian*.—A native of our woods; fruit high flavoured, and ripens very early. It is the parent of all the strawberries of that class denominated Scarlets, of which 43 varieties are known.

2. *English Red Wood*.—This is sometimes erroneously called Red Hautbois, although it is smaller in size, and inferior in flavour. It is, however, one of our most productive varieties, and not apt to have a superabundance of male flowers; and, as the fruit does not all come to maturity at one time, but continues to ripen gradually for a considerable period, it is a very useful family strawberry.

3. *English White Wood*.—This is also sometimes erroneously called White Hautbois. It has precisely the same qualities as No. 2, except in point of colour.

4. *English Red Hautbois*.—This is musk flavoured, very fine, and nearly twice the size of No. 2. This variety is very apt to be overrun with male plants, in which case new beds ought to be made when in fruit; in making which,

they should be planted in the proportion of ten fruit bearing, or female plants, to one barren, or male plant; and beds thus formed, will produce so abundantly as amply to compensate for the labour bestowed. If preferred, the plants can be carefully marked when in fruit, and be transplanted afterwards.

5. *Hudson's Bay*.—An excellent variety, with fine flavoured scarlet fruit. Whether it came originally from the Bay whose name it bears, seems somewhat a matter of doubt.

6. *Red Chili*.—This is a conical shaped fruit, with a neck between it and the hull, from which it is consequently detached with ease. It is exceedingly productive, and is raised in great quantities for the market of New-York; it is inferior, however, in flavour to the Roseberry, Hautbois, Lima, and many others.

7. *Blush, or Greenish Chili*.—This is called, in England, the White Chili, and was imported by me from there under that name—it is also frequently there called the Green Pine Apple. It produces fruit more flat shaped than any other I have seen, which is always of a greenish and immature appearance on one side, even when perfectly ripe, and of a light red on the other. It possesses a high musky flavour, the taste being somewhat peculiar, and by some, at first, considered disagreeable; it ripens late, produces well, and quickly covers a large space of ground with its numerous runners.

8. *Bourbon Blush*.—A pale red fruit, less productive than many others, but of fine flavour.

9. *Pine Apple, or Carolina*.—This is another native of our country, and is the parent of nineteen known varieties, among which are Keen's Imperial, Keen's Large Seedling, and many others of the largest size. It is distinguished by its large and vigorous foliage, and fine flavoured fruit, but is subject, like No. 4, to be overrun with male plants; but, by pursuing the same course as prescribed for that, this may be successfully surmounted.

10. *Caroline*.—This is a seedling of No. 6, of good size, but less productive.

11. *Red Alpine, Monthly, or Everbearing*.—It is no uncommon thing to gather fruit of this kind when the autumn is mild, in the open air, at Christmas. In size and flavour it is similar to No. 2, and produces fruit throughout the season.

12. *White Alpine*.—This possesses the same properties as the preceding, except as respects colour.

13. *Keen's Large*.—This is much celebrated; foliage and runners vigorous; fruit large, and fine.

14. *Keen's Imperial*.—One of the largest and most noted English varieties; fruit fine flavoured, and well worthy of cultivation. So much admired was this fruit on its first appearance, that the plants were sold at one guinea each.

15. *Roseberry*.—This is a variety of the scarlet, or Virginian strawberry, of our woods, produced by culture in England. It is a high flavoured fruit, of fair size, and produces so abundantly, that it is cultivated more extensively for the supply of the London markets than any other; it is also deemed the best for forcing in winter.

16. *Black*.—A blackish red fruit, of good flavour.

17. *Bath Scarlet*.—A fine variety; fruit of good size, and well flavoured.

18. *New Hautbois*.—This is also called Black Hautbois; fruit of the largest size of this class, and of a fine musk flavour; when full ripe, of a very dark or blackish red. It is exceedingly productive, and I consider it one of the most valuable kinds.

19. *Downton*.—This is highly esteemed; fruit large, and of good flavour; the foliage very large and vigorous; it produces well.

20. *Knight's No. 14*.—This is also called the Narrow Leaved Scarlet. It is one of the finest varieties of No. 1; fruit large, and of fine flavour.

Bostock.—A variety of the pine class. It has been known by no less than sixteen names in England, which is of itself a strong proof of the estimation in which it has been held.

Montreuil,
Raspberry Flavoured, } Favourite French varieties.

Bush Alpine, or Monthly.—This is exactly similar to No. 11, with the exception of its having no runners; a circumstance to which some amateurs are particularly partial.

French Hautbois.—This much resembles No. 18, except that the fruit seems not quite as large; but it is one of the greatest bearers I have ever seen.

Large Lima.—This is one of the very largest and finest flavoured kinds I have ever seen; the fruit is of a long conical form, and is very high flavoured. I consider this one of the very best for a family garden, and perhaps it may prove equally so to cultivate as a market strawberry. I un-

derstand it was imported direct from Lima, by T. P. Ives, Esq., of Providence, Rhode-Island, and I doubt its being yet in Europe.

Early Hudson.—This has round fruit, of a pale red colour, ripens about ten days earlier than the Red Chili, and forms, with that, the principal bulk of this fruit sold in the New-York market. It is a good bearer, and of fine flavour.

Wilmot's Superb.—This seems a monstrosity of its species, and I never could have supposed a variety could have been produced of such enormous size. I have now before me the *coloured plate and description* from the originator himself, Mr. Wilmot, of Isleworth, near London. He states, that this strawberry is from six to eight inches in circumference: and as this fact is corroborated by the publications of the London Horticultural Society, by Loudon in his *Gardener's Magazine*, and others, we cannot doubt its accuracy. It ripens later than the Pine, and most other kinds. It is represented as not so highly flavoured as some others, but it is probably equal to the Red Chili, with which the New-York market is supplied.

Bishop's Orange.—The largest of the scarlets.

Grove End Scarlet.—A good bearer, and of fine flavour.

HOPS.

This plant, English writers state, flourishes most in a loam, on a light sandy bottom. In forming plantations, suckers are preferred, which should be cut short at planting, and well manured every two or three years; they should also be frequently topped, and kept down to six feet, till they have gained strength. In Massachusetts, large plantations of the hop exist; but it is very probable that this culture might afford greater remuneration, if some of the finer varieties, which are cultivated near London, were introduced to our plantations, as great distinctions are made in Kent, and other parts of England, on this point.

LIQUORICE, OR GLYCYRRHIZA.

This plant, which produces the Liquorice of the shops, is cultivated in England for the use of brewers and distillers—but Liquorice is manufactured from it only in Sicily and Spain. It grows naturally in these countries, and in Languedoc; and in such abundance in some parts of Sicily, that it is considered the greatest scourge of the cultivator. Its roots penetrate to a great depth, and the deeper the ground is opened, with a view to eradicate them, so much the more

vigorous is the succeeding crop, as is pretty nearly the case in digging up a crop of Horseraddish. No other culture is given than removing the crop thus spontaneously produced every third year. The juice is pressed from the roots much in the same way as oil is from olives—they are first washed perfectly clean, then crushed in an olive mill, then boiled four or five hours, pressed in the olive press, and the juice slowly boiled in an iron vessel.—(*Bull. Univ.*)

RHUBARB.

The different species of this plant flourish best in a light, deep soil, more dry than moist, and an exposition to the morning sun. The seeds should be sown as soon as collected, and the plants may also be increased, by dividing the roots in the spring.

TARTS.

There are several species used for the table—the *Undulatum*, the *Hybridum*, and the *Rhaponticum*—the first and second ones mentioned are the most cultivated at London for that purpose. In France, the *Rheum compactum* is more generally cultivated than any other.

MEDICINAL.

It has, for a long period, been considered, that the *Rheum palmatum* was the rhubarb used for medicinal purposes; but it has now been proved and decided, by the best authority, that it is a species totally distinct, the *Rheum australe*, which is used for that purpose.

ASPARAGUS.

This plant, which is cultivated very extensively for the markets, requires that the soil be made very rich and light, and that it be made mellow to the depth of 18 or 20 inches. The preferable mode of planting is in long narrow beds of about five feet wide, and the plants should be placed one foot apart each way in the beds.

DYER'S MADDER.

This plant, of so much importance in manufactures, and of which we have annually to import large quantities from Holland, will succeed in this country as well as in any part of Europe. It will thrive in any soil except a sand, and would amply remunerate those who would undertake its cultivation on a large scale, as the daily increase of our manufactures will cause an enlarged demand for this indispensable article.

Nomenclature of Fruits.

During a number of years, the author has been engaged in a most extensive and general investigation of all the fruits that have been introduced to this country from abroad, in order to test their accuracy, and the correctness of their names. This critical inquiry has convinced him, that not less than 100 varieties of the different fruits at present extensively cultivated in this country are incorrect, as to the identity of their names, and consequently quite different from those they are intended to represent. This has arisen either from errors being made when they were sent from Europe, or by established names being adopted here for doubtful fruits. The author himself has, in common with others, been grossly deceived in the varieties of fruits from Europe, even when received from the best nurseries of England and France. This has long since led him to scrutinize every variety he receives, and the original tree is invariably planted out for bearing, that its accuracy may be tested. The author has gone into these remarks, to account for any present differences which exist between fruits from his establishment, and those from others bearing similar names, as above 100 kinds will be found to essentially differ both in appearance and quality. Those persons who are conversant with Duhamel, the Luxembourg Catalogue formed under the auspices of the French Government, the Bon Jardinier, and other French publications; or with Miller, Forsyth, Speechley, and the publications of the London Horticultural Society, can have the identical fruits sent them that are described in those works, and in every case *the identity is guaranteed.*

Synonyms in Fruits.

The author is taking extreme pains to regulate these properly and conclusively, as so much of the success of horticulture depends on critical accuracy. The Catalogues of his establishment bear witness to his anxiety, that the same fruit should never be disseminated under a plurality of names, and it contains more synonyms attached to the respective fruits than any other publication existing; but the author intends, in his "American Horticulture," to extend this necessary part of horticultural information, so as to set

at rest a great many of the errors which have hitherto existed, in consequence of a want of information on this head.

It was quite amusing, on calling to see a peach which an acquaintance called by the charming name of "Maria Antoinette," to discover, that it was the identical fruit which had been long sold as the "Yellow Rareripe," and which originated in a field about two miles from his residence, whence he obtained it, and called it by the latter title. I have also noticed, that a peach, which is now selling as a new variety, by the high sounding name of "Emperor of Russia," is the same fruit known for 30 years past under the unpretending title of "Serrated Leaved Peach." Various other instances of this kind have come within my notice, which it is unnecessary to enumerate here. There is nothing more calculated to lessen the satisfaction of the horticulturalist than this re-christening of old and well known fruits, either by the name of the person who happens to find a tree growing in his garden, or with some fanciful production of his imagination, as it will create the same endless confusion that has for a long period existed in England, and which their Horticultural Society is now attempting to remedy—for it is a fact which can be proved, that many of the fruits of Europe may at present be obtained with more accuracy from some of the American nurseries than they can, in most cases, either from England or France.

Acclimation of Fruits.

Deciduous trees, natives of the same latitude, are far more hardy than evergreens; which proves, that the foliage of the latter possesses, even in winter, a great degree of sensibility. Efforts, therefore, to naturalize the fruits of the warmer climes, should be commenced in preference with those which are deciduous. The deciduous trees of Portugal, Italy, and Spain, and of South-Carolina, Georgia, and Louisiana, will endure the winters of New-York, when the evergreens from the same places perish if unprotected. Though in England, where the winters are more moderate, these survive and flourish, while, from the want of heat in their summers, many of the deciduous trees do not ripen their wood sufficiently to support their climate in winter; whereas, beneath the powerful sun of our country, the wood becomes so well matured, that it, in many instances, resists the rigours of our winters uninjured. A consideration of

these circumstances, and effects of climate, may greatly aid those concerned in the acclimation of trees calculated for fruit or for ornament.

Nursery Soils.

As a prejudice has prevailed from time immemorial, that trees, like cattle, when removed from a rich to a poorer soil, cannot thrive; and, as nursery grounds are generally supposed to be kept in the richest possible state, it is a duty which the author owes to himself to remark, that for many years he has not made use of as much manure on his grounds as is commonly put on the same quantity of ground by farmers in their usual course of agriculture—not from any belief in the above mentioned doctrine, but from motives of economy, resulting from actual experiment, he has substituted culture for manure, by having his grounds, previously to planting, ploughed more than twice the usual depth, and by having the ground each year dug alongside of the rows of trees. By this management they are continued in the most thrifty state until the period for transplantation. The doctrine of trees not thriving when removed from a rich to a poorer soil, has long since been exploded in Europe. Marshall, a celebrated English writer, is very particular on this subject, and gives instances that have come under his observation to prove its fallacy, in his "Rural Economy of the Midland Counties of England," vol. i. p. 85. It is absolutely necessary that the young trees, at the time of transplanting, should be vigorous and thrifty, and it is of no consequence whether this is produced by strength of soil or by culture, as the young trees will then have a constitution prepared to feed themselves on coarser food.

To those who insist on the point that nurseries of trees should be reared on poor ground, the reply may be made, that it might, with equal aptitude, be asserted, that a decrepid man is the best calculated to sustain the toils of a journey.

Orchards near the Sea-shore.

It is recommended, in localities wholly exposed to the ocean—such as Nantucket, and other islands—that those who desire to succeed in cultivating fruits, should first plant a row of red cedars, willows, or other hardy trees, to break

off the gales; next to these, they might plant their pears, as the fruit beat calculated to support the situation, and after them peaches, and other fruits; perhaps it would be better that the cordon of cedars, willows, &c. should be extended on three sides of the plantation. As the red cedar flourishes uninjured on the sea-shore, and from its being an evergreen, is capable of affording protection against storms in all seasons, I consider it as decidedly the most proper to be selected for the before mentioned purpose.

Budding, or Inoculating.

The proper season for this process is from the middle of July to the end of September; but, in fact, any period, when the bark peels freely, will be found suitable for this purpose. The buds to be preferred are those that are strong and well formed, and borne on vigorous and healthy shoots. In taking the bud from the twig, the knife should be inserted about half an inch above it, and a thin slice of the bark, including a small portion of wood with it, should be taken off, extending about one inch below the bud—this bud is to be inserted in the following manner:—Select a smooth part of the body of the tree in which you wish to insert it; make a transverse section through the bark, down to the wood, with a budding knife; from this, make a longitudinal cut downward, so that the two incisions will resemble a T—then proceed to loosen the bark on each side of the longitudinal incision; after which, place the bud at the upper end of it, and draw it gently downward to the end of the incision—the upper part of the bud can then be cut off at the transverse incision, leaving the upper bark of the bud to meet that of the stock. It should then be carefully bound round with strings of bass mat both above and below, but leaving the bud, or eye, perfectly free and uncovered. These strings can be taken off in from two to four weeks after, or when the bud shall seem perfectly united with the stock. The tree must remain in this situation till the ensuing March or April, when the head can be taken off, about an inch above the bud, which projection can be gradually smoothed off as fast as the young shoot advances in strength.

Ingrafting.

This is a process far more simple and easily acquired than inoculating. There are innumerable modes of performing

it, but those most pursued, and most easy and useful, are split, or cleft grafting, and whip, or tongue grafting—these two methods I will, therefore, proceed to describe.

Split, or cleft grafting.—In doing this, the head of the tree or branch is to be carefully cut off in a sloping direction, and the upper part is then to be smoothed off horizontally, to about one-third the diameter of the stock; a perpendicular slit is then to be made of about one and a half to two inches deep, with a sharp knife or chisel, which must cross the centre of the smooth surface of the slope; the graft having been prepared in the form of a long thin wedge, it must now be fitted into the upper part of this incision, and be placed in such manner that the inner bark of the stock and scion exactly meet each other; this being done, the stock should be bound up with a band of bass mat, and the parts be carefully clayed over to prevent the operation of the air, and to keep it moist, leaving about three to four buds of the graft to project uncovered.

Whip, or tongue grafting.—When this method is pursued, the top of the stock and the graft should be of nearly equal diameter; the stock and the graft should each be sloped about an inch and a half, and made to match each other; in some cases they are bound together; in others, the addition of a tongue is made to one part, to match in an incision of the other. In either case, if the barks are made to meet, and they are well bound together, there is little doubt of success. They must be clayed over the same as in split grafting—the clay will need to be mixed up with water, and to be made soft and pliable for the purpose.

ORNAMENTAL TREES, SHRUBS, &c.

Magnolia.—Of this there are a large number of species and varieties, and all of the species are natives either of North-America or of China. The *Magnolia tripetala*, or Umbrella tree, attains a large size, and is of rapid growth. It has very large leaves, and large white flowers. The *Magnolia glauca* has small leaves, of a shining green colour, and the flowers, which are of moderate size, and white, are of exquisite fragrance. The northern varieties of this never forms more than a large shrub, or small tree; but the southern variety, which has longer leaves, rises to the height of 30 or 40 feet, in its native localities. The *Magnolia acuminata* has blue flowers, of no great beauty, but its foliage is

fine, and it rises to the height of from 80 to 100 feet in its native forests, and forms a lofty timber tree.

The *Magnolia cordata*, or Yellow Flowering, is one of the most interesting. This species, when ingrafted, will flower freely at the height of two feet, and continue to do so until it forms a large tree. It is highly interesting, as being the only species with flowers of this colour; and the more so, from its producing them twice in each season: once in May, and again in August, whence it has received the title of "Twice Flowering Magnolia."

The *Magnolia macrophylla* is greatly admired, and has the largest foliage of all the species; the flowers are also larger than any other; they are white, with a touch of purple in the centre, and of very pleasant odour.

The *Magnolia auriculata*, or Ear Leaved, has large flowers, of a cream colour and pleasant fragrance.

The *Magnolia pyramidata* has also its foliage ear shaped, but far smaller than the foregoing, and also differs in other respects.

The *Magnolia grandiflora* is an evergreen, with fine glossy leaves and flowers—white, and of pleasant fragrance. Of this there are a number of varieties.

The *Magnolia Thompsoniana* is a splendid hybrid, between the *grandiflora* and the *glauca*; and its flowers partake of the size of the former, and of the exquisite fragrance of the latter.

All the foregoing support our severest winters, except the two last, and these are often injured; besides which, the *Magnolia obovata*, *conspicua*, and *gracilis*, three splendid Chinese species, support our winters without protection.

Chinese Ailanthus.—This splendid tree, whose rapid growth and pinnated leaves are frequently of the length of three and a half to four feet, is greatly admired. It was introduced from one of the London nurseries by the author, under the name of Tanner's Sumach, and the error remained uncorrected for a number of years. It is now becoming extensively planted for ornament, as it forms one of the most beautiful trees when at maturity, and withstands the severest cold. In Rhode-Island, where it is frequently called 'Tallow, or Tillou tree, there are a great number which are several feet in circumference. It was there supposed, for some time, to have been brought from South-America, but latterly, its introduction has been traced direct to China. As few trees are calculated to make as fine an appearance

In so short a space of time, it is particularly suitable for purposes where trees are required to promptly form an ornament.

Horse-chestnut.—Of this there are various species, varying from very lofty to very diminutive stature, and producing flowers of various colours. The most common is the European White Flowering, which forms a tree of immense size, and whose white flowers, beautifully mottled with red, possess, at their season of bloom, an elegant appearance. Another species of great size, is the *Aesculus pallida*, or Ohio Buckeye. The Scarlet Flowering, and the Yellow Flowering, form trees of about 15 to 20 feet in height, but commence blooming when only from three to four feet high. The Dwarf White Flowering, or *Aesculus macrostachya*, is particularly beautiful, as it never forms more than a handsome shrub of about five to six feet in height, but produces a great abundance of very showy flowers. The *Aesculus rubicunda* and *carnea*, having been but recently introduced to this country, are at present less known; they are however described as greatly to be admired.

Fir trees.—In this class of ornamental trees, those most esteemed are the Balsam Fir, or Balm of Gilead Fir, a native of this country; the European Silver Fir, somewhat resembling the foregoing; the Red Spruce, Black Spruce, Hemlock Spruce, Scotch Fir, Pineaster, or Cluster Pine, and the Stone, or Eatable Fruited Pine of Italy—but none is superior in point of ornament to the Norway Spruce, which has also the advantage of growing on poor soils, and of supporting the severest blasts of winter in any climate.

Yew.—Of this there are three species usually cultivated, the *Taxus baccata*, or English Yew, used very generally in England as an appendage to their burying grounds, on account of its dark green foliage and sombre appearance. This is certainly one of those shrubs which impart a great deal of beauty to a varied shrubbery, by its uncommon dark green and very dense foliage. The American Yew is of much humbler growth, seldom rising over three feet in height. The Irish Yew much resembles the English, except in its growth, which is much more upright.

Arbour Vitæ.—Of this there are two varieties, both extremely ornamental; the foliage is peculiarly formed, the leaves on each branch having a flat or compressed appearance. The Chinese Arbour Vitæ has foliage of a pale green—that of the American is of a much darker hue.

Calycanthus, or Allspice tree.—Of this there are seven species and varieties, all of which withstand the winters of Long-Island. Four of these are natives of the United States, viz. the *glaucus, floridus, pensylvanicus, and lævigatus*. These vary in the colour of their flowers, the form of their foliage, and in possessing, to a greater or less degree, a delightful strawberry-like fragrance, both in the flowers, and in the bark and leaves. The three others are from China, viz. the *præcox var. lutea*, or Yellow Flowering; the *var. albo*, or White Flowering; and the *grandiflorus*, with larger flowers. These also possess a delightful fragrance, and their flowers are of very curious structure.

Live hedges.—The trees mostly used for hedges are the White English Hawthorn, the Holly, the Red Cedar, and the Privet. In the vicinity of Baltimore and Washington cities, they use two species of American Hawthorn, which appear to have decided advantages over the European. The *Rhamnus catharticus* forms a most beautiful hedge; and I consider the *Maclura*, or Osage Orange, and the *Robinia pseudacacia*, or Common Yellow Locust, might be used to great advantage for this purpose. If the latter should shoot up, so as to become strong trees, they might, every ten years, be cut down for timber, and the numerous shoots from the roots would speedily renew the hedge. In addition to the foregoing, the *Mespilus pyracantha*, or Evergreen Thorn, is frequently used for hedges.

Maple.—Of the *Acer*, or Maple, there are many species, of some of which I will proceed to give cursory descriptions.

Sugar Maple, or Acer saccharinum.—This is one of the loftiest native trees of our country, and so well known for its stately growth, and for its useful properties in the production of sugar, and as a timber tree, that a lengthy description would be deemed superfluous. I would only observe, that it is becoming one of the most favourite trees in the United States for shade or ornament.

European Sycamore, or Acer pseudo-platanus.—This grows to a great height and ample size, throwing out a wide spread top. Its leaves are vine shaped, and, on their first appearance, are of a fine green; but, as the season advances, they lose much of their primary beauty. It is, however, much admired as an ornamental tree, and is useful for its timber.

Striped Sycamore.—This is a variety of the preceding,

which never attains to a large size, but its neatly variegated foliage renders it very desirable as an ornamental shrub.

Norway Maple, or Acer platanoides.—This has the largest leaves of any maple I have seen, and is considered as one of the finest ornamental trees. The flowers are handsome, come out early in the spring, and are of a fine yellow colour.

Ash Leaved Maple, or Acer negundo.—This is a tree of rapid growth, a native of our country; its leaves are of a pale green, and well calculated to add to the variety of tint in pleasure grounds.

Scarlet Maple, or Acer rubrum.—Of all the species I consider this the most desirable as an ornamental tree; its flowers are of a bright scarlet, and come out very early in the spring, before the leaves; and, when every other tree of the forest seems naked and unadorned, this gives a cheerful and brilliant appearance at a season when scarce a vestige of verdure decks the landscape.

English Maple, or Acer campestre.—This is a tree of diminutive size, forming, by its curious shaped leaves and general appearance, a great diversity among trees of this genus.

Striped Maple, or Acer striatum.—This is a tree of fine foliage, and medium stature; the bark of the young branches is most singularly striped with white.

Mountain Maple, or Acer montanum.—This is more diminutive in its growth than any other native species, producing its seeds when not over four or five feet high, and seldom attaining more than ten or twelve feet at its maturity.

Indigo Shrub, or Amorpha fruticosa.—This shrub does not expand its foliage till late in spring; they are large, beautifully pinnated, with a terminate foliole; the flowers are of a blueish purple colour, with bright yellow stamens, and are produced in spikes of from seven to eight inches long, at the ends of the branches—these are very numerous, and make a fine appearance.

Angelica Tree, Hercules' Club, or Aralia spinosa.—This attains to the height of from 16 to 20 feet; the stem, which is of a dark brown, is defended by sharp spines; and even the leaves are defended in a similar way. From these appearances, it has derived the second name given to it above. The flowers are produced in very large umbels, from the

extreme ends of the branches—they are of a greenish yellow colour, but not showy.

Abele, or Silver Leaf.—This tree, a variety of the poplar, is highly calculated to ornament pleasure grounds, &c. It attains to a large size, and is of quick growth; but its great beauty consists in its foliage, of a fine green, on the upper surface, and of a perfectly white silvery hue on the under side. The leaves being supported by slender petioles, are easily agitated, and hang quivering, with the least breeze, like the trembling aspen; and the green and white surfaces of the leaves mingled thereby, present a contrast which, at a distance, gives to the tree an appearance of being covered with numerous flowers. This tree has also the advantage of holding its foliage late in the season.

Alder leaved Clethra, or Clethra alnifolia.—This shrub rises to the height of from four to six feet, and produces very numerous spikes of white flowers in July and August, at the extremities of the shoots, which are of delightful fragrance. Being a native of our low swamps and woods, it imparts, at the season of bloom, a most agreeable sweetness to the surrounding atmosphere. There are several other American species.

Bladder Senna, or Colutea.—Of this there are several species; they have fine pinnated leaves, and papilionaceous flowers. Those most admired are the following:—

Colutea arborescens, or Yellow Flowering.—This is the tallest growing species; it is a native of France and the south of Europe, and is found particularly plenty about Mount Vesuvius. The flowers are yellow, and are produced in June and July, and again in September and October. At the latter period the plant has a singular appearance, from the circumstance of having the ripe pods of seeds of the first bloom hanging on the branches, and interspersed with the autumnal flowers. This, as well as the following species, are of easy culture, and will grow on almost any soil.

Colutea halepica, or Pock's Senna.—This resembles the foregoing in general appearance, but the flowers are of a dark yellow, touched with red. It has the same property of flowering twice in the manner of the foregoing.

Colutea cruenta, or Red Flowered.—This is not of quite as vigorous growth as the two preceding; the foliage is similar, but the flowers are red, spotted with yellow.

Box, or Buxus.—The Box is an evergreen, two species

of which are usually cultivated, the sempervirens and balearica.

Buxus sempervirens.—This is the common species of our gardens, of which there are the following varieties:—

Tree Box.—This grows to the height of from 15 to 18 feet; the leaves are shining and smooth, and the branches of a yellowish hue. It is considered, when it attains a large size, as one of the first among ornamental evergreens. It will flourish in very bleak situations, and on barren soils; it even flourishes beneath the shade of forest trees, and may be used as under shrubbery in ornamental plantations.

Gold Striped Box.—A variety of the Tree Box, with beautifully striped foliage.

Silver Striped Box.—Also a variety of the Tree Box.

Gold Margined Box.—This is a third variegated variety, with the yellow stripe on the margin of the leaf.

Dwarf Box.—This is the low growing variety, generally used for edging of garden walks and flower beds. Its growth is slow, but at very advanced age it attains to a shrub of from six to eight feet high. It is this variety which is so widely spread and well known throughout the country.

Narrow Leaved Box.—This is also of dwarf growth, with smaller and more narrow leaves than any other variety. It forms naturally a regular head, and the whole shrub has a delicate appearance.

Striped Narrow Leaved.—This is similar in appearance to the above, except that its leaves are prettily striped.

Buxus balearica, or Minorca Box Tree.—This has broader and larger leaves than any of the foregoing, which give it a fine appearance; and although it supports our winters in this latitude, it is doubtful whether it would do so further north. A new species of Box has been recently obtained from China, but not having yet been much cultivated, its merits are less known.

Clematis.—Of this there are numerous species, all of which are climbing plants, except three. I will proceed to describe some of those most generally cultivated.

Clematis virginica, or Virginian Virgin's Bower.—This is of most rapid growth, and produces, in July and August, a great abundance of white flowers, which are very fragrant; it is well calculated to cover arbours and bowers.

Clematis vitalba, or Traveller's Joy.—This, although a native of Europe, greatly resembles the one just described. Its growth, however, is far more strong and vigorous; its

branches are very numerous, and will quickly overtop hedges, or any thing they can climb by ; the leaves are pinnated, of a blueish green, and moderately large ; the flowers are white, and are produced in clusters all over the plant in July and August ; these are succeeded by seeds, each with a hairy plume, which remain on during winter, and it is from the appearance of these covering the tops of hedges, &c. in winter, and giving them an appearance calculated to amuse the traveller, that it has received the appellation of *Traveler's Joy*.

Clematis viticella, or *European Virgin's Bower*.—This is a native of the south of Europe, and is greatly admired as a vine for covering bowers, or training against the sides of houses, or in other situations where vines are wanted. There are several varieties, varying in the colour and form of their flowers, as follow :—

Red Flowering.

Blue Flowering.

Purple Flowering.

White Flowering.

Double Purple Flowering.

These are all free growing climbers, and will grow to the height of 20 feet or more. The leaves are compound, and are produced in abundance, so as to yield an effectual shade. An intermixture of the different varieties produces a fine appearance when the plants are in flower.

Clematis crispa, or *Curled Flowered*.—This is a native, and rises to the height of from eight to ten feet ; the flowers are very singular in appearance, being composed of four thick coriaceous curled petals, of a reddish purple outside, and greenish yellow within ; in colour differing from most other species, and being produced earlier in the spring, make it very desirable—as it testifies how many months of the summer are ornamented with the bloom of some one or other of the species of the *Clematis*.

Clematis vitorna, or *Blue Virginian Climber*.—The branches of this are slender, and seldom rise above six feet ; the flowers are of a blueish purple colour, and are produced from the wings of the leaves ; the petals are four in number, and are of a thick coriaceous substance.

The three following are not climbers.

Clematis erecta, or *Upright Virgin's Bower*.—A native of

Austria, rising to the height of 20 inches to two feet, with numerous flowers.

Clematis integrifolia, or *Entire Leaved*.—A native of Hungary, rising to the height of two feet, with numerous purplish coloured flowers at the tops of the shoots.

Clematis sericea, or *Brown Flowered*.—This rises to the height of 18 inches, with brownish flowers of no very showy appearance.

Clematis flammula, or *Sweetest Virgin's Bower*.—This is of rapid growth, but its shoots are more delicate than many others; it will mount, by assistance, to 15 or 20 feet in height; the leaves are ternate, the flowers white, and yielding the most delightful fragrance imaginable; they are also so numerous as almost to totally cover the plant, and are produced in June, July, and August.

Clematis orientalis, or *Oriental Virgin's Bower*.—This is not a very great Rambler, and although furnished with claspers, seldom rises over eight or ten feet; the leaves are compound, of a fine green, and quite ornamental; the flowers are produced from the wings of the leaves very early in the season; they are of a yellowish green colour, with the petals reflexed.

Dogwood, or *Cornus*.—*Cornus florida*, or *Common Dogwood*.—Although this tree is found in such abundance in our native forests that it is little valued, still it is well calculated to decorate pleasure grounds in the way of underwood, for it flourishes and produces its flowers in great abundance even when densely overshadowed by surrounding trees of loftier growth; its flowers are produced before the expansion of its own leaves, and when nature has not yet cheered the scene with a general expansion of foliage.

Cornus mascula, or *Cornelian Cherry*.—This species of Dogwood, a native of Austria, which has received the name of Cherry from the appearance of its fruit, is one of the most ornamental which can deck the shrubbery; it produces its yellow blossoms very early in spring, before the expansion of its foliage, and in autumn is loaded with quantities of beautiful crimson fruit of an oval form; these are acid, resembling in taste the barberry, and are sometimes used for preserves; and in some instances the juice has been expressed and made into shrub.

Cornus sanguinea, or *Bloody Dogwood*.—This has fine foliage, but its greatest singularity is in the appearance of its branches, which are, during autumn, winter, and spring,

of a blood red; their appearance is calculated to vary the monotony of the shrubbery during the winter season. There is a variety with striped leaves.

Cornus stricta, or Upright Dogwood.—This is a shrub growing to the height of five or six feet, not particularly remarkable for beauty—but there is a variety of it with beautifully variegated leaves, which is quite ornamental.

Cornus alba, or White Berried Dogwood.—This rises to the height of five or six feet, is thickly clad with foliage, and produces white berries.

Jersey Tea, or Ceanothus americanus.—This shrub grows to about the height of two feet, throwing up numerous shoots from the root; these are delicate, and of a reddish colour, whence it is often called Redtwig. It produces, at the extremities of the branches, clusters of very delicate white flowers, which are so numerous, that the plant seems almost covered with them. The leaves, which appear mingled with the flowers, have the appearance of myrtle in a nosegay. The flowers are produced in June and July, and have very little fragrance.

Judas Tree.—Of this there are two species; the one of Europe, and the other of America.

Cercis siliquastrum, or European Judas Tree.—This attains to the height of 20 feet in extreme cases, but is generally much less in stature. The leaves are smooth, and of a roundish heart shape, and of a pleasant green; the flowers are of a fine purple, of a pea blossom form, and are produced in numerous clusters early in the spring, from the sides of the branches, growing on short foot stalks; the tree at this time being perfectly devoid of foliage, presents with these numerous clusters of flowers a most singular appearance. There is a white flowering variety, which is much esteemed, but far more rare.

Cercis canadensis, or American Judas Tree.—This tree, in a good soil, has attained to the height of 25 feet, but its general stature is from 12 to 15 feet. The leaves are heart shaped and downy, and placed alternately. The different varieties of this tree are highly esteemed for the exhibition of their flowers at an early period of spring, when nature seems yet naked and unadorned. The flowers of all the varieties are also frequently used in salads.

Hawthorn, or Cratægus.—Of this there are numerous species; and as most persons are conversant with the general appearance of the plant, I will only enumerate some of the principal ones.

Crategus oxycantha, or *European White Thorn*.—This is the common species used throughout England for hedges, and which has been considerably planted in this country for the same purpose. It answers very well trained as an ornamental tree among shrubbery, but is far less suitable for hedges than many of our native species. In fact, the native species generally used grow with twice the rapidity of the European, and are also not subject to the attack of the insects which frequently prey upon the White Thorn, and seem to have been introduced with it from Europe.

Double White Hawthorn.—This is a variety of the preceding, with very beautiful flowers resembling small roses, and which, some days after expansion, change to purple—it commences flowering when but three or four feet high.

Crategus monogyna, or *Scarlet Flowering Hawthorn*.—This is a variety with pretty red flowers.

Yellow Fruited Hawthorn.—This is a variety of the above, with yellow fruit.

Crategus azarolus, or *Azarole*.—Of this there are several varieties, the Red Fruited, the Large Yellow Fruited, and the White Italian.

Crategus crus galli, or *Cockspur Thorn*.—Of this there are two varieties; the splendens, which is considered the handsomest; and the pyracanthifolia, or pyracantha leaved. The other principal species are as follow:—

Crategus coccinea, or *Large Scarlet Fruited*.

Crategus parvifolia, or *Small Leaved*.

Crategus aptifolia, or *Parsley Leaved*.

Crategus elliptica, or *Elliptic Leaved*.

Crategus cordata, or *Heart Leaved*.

Crategus flava, or *American Yellow Fruited*.

Crategus glandulosa, or *Glandular Leaved*.

Crategus punctata, or *Spotted Leaved*.

Crategus pyrifolia, or *Pear Leaved*.

Crategus linearis, or *Linear Leaved*.

Crategus populifolia, or *Poplar Leaved*.

Crategus salicifolia, or *Willow Leaved*.

Crategus sanguinea, or *Crimson Fruited*.

Crategus spathulata, or *Spathulate Leaved*.

Crategus viridis, or *Green Fruited*.

The foregoing form a beautiful variety by their diverse foliage and fruit to ornament shrubbery and pleasure grounds.

Snowdrop, or White Pringle Tree.—Of this there are two species, both natives of the United States.

Chionanthus montana, or Mountain Snowdrop Tree.—This is the species most commonly cultivated; it is easily distinguished by its broad leaves, the great vigour and size of its shoots, and by its large stature. The leaves are laurel shaped, broad, and roundish; the flowers are produced in numerous bunches at the latter end of May on every part of the tree; they are of a snow white, resembling clusters of cut paper, and have a unique appearance.

Chionanthus maritimus, or Maritime Snowdrop Tree.—This much resembles the foregoing, except that it is of more dwarfish growth, with much narrower leaves, and with flowers rather more finely cut, and more numerous.

Myrtle Leaved Coriaria, or Coriaria myrtifolia.—This is a shrub of beautiful appearance; its leaves are of the size of the broad leaved myrtle, but of a much darker and more shining green; it is of low growth, seldom rising over three feet; it throws out numerous branches, which, being fully clad with leaves, cause it to form a dense shrub; the flowers grow at the ends of the shoots, and have little beauty. It supports the winters of this latitude, but it is doubtful if it would do so much further north without some winter covering or protection.

Cypress.—Of this there are two species usually planted in this country, viz.—

Cupressus disticha, or American Deciduous Cypress.—This is a tree of most rapid growth, and attains to an immense size, scarcely secondary to any tree of North-America, often measuring 30 feet in circumference. Its wood is very durable when used for posts to set in the ground; and, as it stands the cold of a northern climate, and is of such quick growth, there is no tree, the Locust excepted, that could be so advantageously cultivated as a timber tree; the foliage is peculiarly light and delicate, which renders it one of the most desirable trees for ornament.

Cupressus sempervirens, or European Evergreen Cypress.—This is a native of Spain, Italy, Portugal, and Crete, and will not well support the winters of this latitude without some covering or protection. It is an elegant tree, with dense and dark green foliage, from which it has been poetically considered as an emblem of gloom, though its fine verdant appearance, during the depth of winter, seems more calculated to impart cheerful ideas. It forms a tree of con-

siderable height. There are two varieties, the Upright and the Spreading. In the Levant this is used as a timber tree.

Cytisus.—Of this there are several species; the most beautiful of which is the *Cytisus laburnum*, or Laburnum Tree, celebrated for the beauty it imparts to the Scotch highland scenery; the flowers, which are of the butterfly form, and of a bright golden yellow colour, hang in long pendant clusters, and have a most interesting appearance—it is from the appearance of its golden blossoms that this tree has been called the Golden Chain, or Golden Acacia. There are three varieties, the Broad Leaved, the Narrow Leaved, and the Striped Leaved.

There are other species of the *Cytisus*, which are only low growing shrubs, viz.—

Cytisus sessilifolius, or *Sessile Leaved*.

Cytisus hirsutus, or *Hairy Leaved*.

Cytisus capitatus, or *Cluster Flowered*.

Cytisus nigricans, or *Blackish Cytisus*.

All these form low bushy shrubs of from three to four feet in height.

Scorpion Senna, or *Coronilla emerus*.—This is often called the Red Flowering Coronilla; it is a shrub of low growth, seldom rising over three feet; the leaves are pinnated, of a pleasant green, and produced in great abundance; the plant throws up numerous shoots from the root, and forms a number of small branches, which, being closely clad with delicate foliage, give it a very neat appearance. It is the flowers, however, which form its greatest beauty; these are of papilionaceous, or butterfly form, and are produced early in the season in the greatest abundance; indeed, the whole plant is interspersed with them. It also frequently flowers a second time in autumn.

Strawberry Tree, or *Euonymus*.—Of this there are many species; the principal of which I will proceed to describe.

Euonymus europæus, or *European Strawberry Tree*.—This is also called the Spindle Tree, the Burning Bush, and the False Arbutus. Its principal beauty consists in its fruit, which is produced in great numbers; and, in the common variety, they are of a red colour, and are considered at a distance to resemble strawberries. These hang on the trees during the autumnal months, and part of the winter, and are

greatly admired for their enlivening appearance during this dreary season. There are several varieties of this species, viz.—

Deep Red Berried.

Pale Red Berried.

White Berried.

Broad Leaved.

Variiegated Leaved.

Euonymus atropurpureus, or *Purple Flowered*.—This considerably resembles the foregoing, but it is of more vigorous growth, and has less of the quadrangular appearance in the shoots; the berries are large, generally deep red, and in great abundance, and the purple flowers easily distinguish it. There is a variety with pale red fruit.

Euonymus americanus, or *Evergreen*.—This holds its foliage considerably during winter, whence its title. It is of lower growth than those before mentioned, seldom rising above six feet, and the shoots are more delicate. When loaded with its beautiful scarlet fruit, this shrub forms a great attraction, and it is this species which has more particularly received the appellation of Burning Bush. There is also a low trailing variety.

Oleaster, or *Elaeagnus*.—Of this there are several species.

Elaeagnus angustifolius, or *Narrow Leaved*.—The foliage of this species is white, or silvery, and the young branches are also white, which give to it a peculiar appearance; the leaves are, to the touch, as soft as satin, and continue on the greater part of the winter; the flowers are produced in July, but make no figure: they are small, white, of a strong scent, and are succeeded by fruit resembling small olives.

Elaeagnus latifolius, or *Broad Leaved*.—The leaves of this are more than twice the size of the preceding, green on the upper surface, and of a silvery hue beneath. It is a fine shrub for ornament, and both this and the foregoing are but lately introduced to this country; and consequently little known.

Shrubby Horsetail, or *Ephedra distachya*.—This is an evergreen shrub, growing to the height of four or five feet; it is noted for its naked appearance, and throws out its numerous shoots in thick and dense bunches, resembling a horse's tail. It is one of the oddities which serve to orna-

ment the shrubbery more by their peculiarity than by their beauty.

European Beech, or Fagus sylvatica.—Of this tree there are several varieties, which are as follows:—

Common European.

Fern Leaved.

Striped Leaved.

Purple Leaved.

Copper Leaved.

Of these the Purple and Copper Leaved varieties are the most admired, from the very singular appearance and colour of their leaves forming such a striking contrast to that of surrounding shrubbery.

Ash, or Fraxinus.—*Fraxinus excelsior, or Common European Ash.*—This forms one of the loftiest trees, and where compressed by others, will have a slender top, but when it has space, it throws out large arms, forming a full spreading head. A tree, which grew near Dunbarton, (Scotland) measured, at five feet from the ground, sixteen feet nine inches in circumference. There is a diminutive variety with variegated leaves. The foliage of these, and of all the other ash trees, are pinnated, with one exception.

Fraxinus v. pendula, or Weeping Ash.—This is a variety of the preceding, with pendant branches, which it will throw down so as to touch the earth, and may be trained so as to form a bower of its branches. It is greatly used in Europe for the ornamenting of pleasure grounds, &c.

Fraxinus ornus, or Flowering Ash.—This grows to be a tree of considerable size; the foliage is of a fine green, and each leaf has three or four pair of folioles; the flowers are white, and are produced in May, in large bunches at the ends of the branches. They do not present a gaudy dress, but exhibit themselves in a loose easy manner on all the shoots; and, with the green leaves peeping through this bloom, make the appearance particularly pleasing.

Fraxinus atrovirens, or Curled Leaved Ash.—This is easily distinguished from all others by its curiously curled leaves of a dark green hue, which give to the tree a sombre and gloomy appearance. The growth is very peculiar, and the ends of the young shoots are blunt, and nearly the same size at the extreme end as at their base. It is calculated to form a very striking appearance in a shrubbery.

Fraxinus aurea, or *Golden Ash*.—The foliage of this much resembles the Common Ash, but its bark being of a bright golden yellow, make it to appear quite singular and distinct, and to form a contrast to those which surround it.

Fraxinus rotundifolia, or *Manna Ash*.—It is this tree which is said to produce in Italy the manna. Its appearance is similar to many of the other species.

Fraxinus simplicifolia, or *Single Leaved Ash*.—This species is a striking example of the variability of nature, for while all the others have pinnated leaves, this has generally a perfectly simple one; but sometimes there will be a part of them somewhat divided on the same tree.

Fraxinus chinensis, or *Chinese Ash*.—This easily distinguishes itself by its very narrow leaves, which give to the tree a lighter appearance. Its more delicately formed foliage render it one of the most ornamental species.

There are numerous other species of the Ash, such as the *Fraxinus acuminata*, *sambucifolia*, *viridis*, *carolina*, *pubescens*, &c.

Althea frutex, or *Hibiscus syriacus*.—This shrub grows generally to the height of 10 or 12 feet; but there are some on Long-Island which are at least 15 feet in height. It forms a fine conical shaped head, and the different varieties continue blooming from the latter part of summer to the end of autumn. The single flowering ones commence earliest in the season, and when they are nearly past, the double ones commence, and continue till frost prevents the further expansion of their flowers. There are a number of varieties, among which are two new double ones, originated from seed within the last few years. I will proceed to enumerate them.

<i>Single White.</i>		<i>Double Purple.</i>
<i>Single Red.</i>		<i>Double Striped.</i>
<i>Single Purple.</i>		<i>New Double Blue.</i>
<i>Single Blue.</i>		<i>New Double Red.</i>
<i>Single Striped.</i>		<i>Variegated Leaved, with</i>
<i>Double White.</i>		<i>blue flowers.</i>

All these may be considered as fine ornamental shrubs, and will flourish in almost any soil—they all support the winters of this latitude; but the white, which appears the most delicate, will probably need some protection during winter in localities further north.

Hydrangea.—Of this there are four species known in our gardens ; one of which is from China, and three natives of our country. They are plants of the most easy culture, spreading freely by radical shoots, and may also be increased by layering or cuttings. They are as follow :—

Hydrangea hortensis, or *Changeable Chinese*.—This is well known for its extremely showy flowers, which, during their developement and decline, present a variety of shades and colours. It has also been found that *soil* has a singular effect in this respect ; and it is remarked, that when planted in a sandy or indifferent soil, the flowers are of a rose colour—but when black swamp mould is used, the blue is found to prevail. As the plant is a native of low wet soils, it flourishes most in such a situation, or by the application of plentiful waterings. When it was first introduced to Europe, it was nursed as a very tender plant, but it is found now to withstand perfectly the winters of Long-Island ; and with the protection of some slight covering in winter, would doubtless succeed much further north.

Hydrangea quercifolia, or *Oak Leaved*.—This is next in beauty to the foregoing ; its foliage being particularly fine, the flowers white, and the large clusters of them assuming a pyramidal form.

Hydrangea vulgaris, or *Common White Flowering*.—This grows to the height of from four to five feet, but neither the foliage nor the flowers have any thing particularly striking in their appearance ; it only answers as one among the many to fill up a varied shrubbery. Plants of inferior appearance, however, possess this merit, that they serve by contrast to heighten the value of others.

Hydrangea radiata, or *Ray Flowered*.—This is a shrub of more humble growth than the preceding, seldom rising over two feet ; the flowers are white, and are produced on the clusters in a radiate manner.

Hypericum, or *St. John's Wort*.—The shrubby species most commonly cultivated for ornament are the following :—

Hypericum kalmianum, or *Laurel Leaved*.—This has small foliage much resembling the *Kalmia angustifolia*, or *Narrow Leaved Laurel*, whence it derives its specific title. It forms a shrub of about four feet in height, and produces its flowers, which are yellow, towards the end of summer, in the greatest abundance, and is considered very ornamental.

Hypericum prolificum, or *Prolific Flowering*.—This attains to the height of two or three feet ; its leaves are more

narrow than those of the preceding, and the whole shrub has altogether a more delicate appearance; its flowers are about half the size, but are produced in the greatest profusion, whence it receives its title.

Hypericum hircinum, or Fœtid.—This species, which grows naturally on the sides of rivers, in Sicily, Calabria, and Crete, attains to the height of from three to four feet; the flowers are of good size, and being also numerous, render it quite ornamental; the leaves, when bruised, emit a very disagreeable scent.

There are several other species of shrubby *Hypericum* that have been but recently introduced to our gardens, among which the *H. glaucum* is deemed the most interesting.

Holly, or Ilex.—Of this several species are cultivated, which are partly natives of Europe, and the residue of this country; they are all evergreens, with a single exception.

Ilex opaca, or Common American.—This is the most hardy of the native species, and is found growing in abundance on the sandy beaches of Long-Island, on the borders of the ocean, and exposed to every storm. Its growth is slow, and in some instances it is said to attain to the height of 60 feet, or more; but its general size is from 15 to 20 feet. During, however, the whole stage of its growth, it presents a fine appearance, the dark green foliage being finely contrasted by its bright red berries.

Ilex aquifolium, or Common European.—This, in extreme cases, attains to the height of 30 feet, or more; to arrive at which size, however, it requires a long period; its foliage is of a deeper hue than even the preceding, and its berries are similar. At maturity, this tree is considered to form one of the most ornamental evergreens in nature. It will not only flourish when standing singly, or in groups, but will thrive with great beauty under the shade of the more lofty deciduous trees. But it is when the face of nature is divested of other ornament, and when frigid winter most needs something to cheer the dull monotony of the scene, that the blushing fruit of the Holly, interspersed among its fine foliage, renders it the most attractive, and which undoubtedly entitles it to be considered as one of the first among ornamental trees. It is found very suitable for hedges, for which purpose it is extensively used in England. In addition to the Common Holly, there are a great number of varieties, viz.—

Box Leaved.
Hedgehog Leaved.
Striped Hedgehog Leaved.
Silver Striped.
Gold Striped.
Gold Bloched, &c. &c.

All these are very interesting on account of their peculiar foliage; the variegated ones are considered less hardy than the others, and in this latitude need protection in severe winters.

Ilex prinoides, or Deciduous.—This has smaller leaves than the preceding, they being about as large as those of the Common Privet. Its berries are red, and it never attains to more than a small shrub of about three feet in height. Its being deciduous, forms a striking peculiarity when contrasted with its congeners, and some authors have recently transferred it to another genus. In addition to those described, there is the *Ilex cassine*, or Cassine Tree, of the southern states, with its fine myrtle-like foliage, and the *Ilex vomitoria*, or Yapan Tree, of Carolina; but as neither of these will support the winters here without protection, they consequently cannot be considered as hardy shrubs.

Jasmine.—The hardy species of the Jasmine may be properly divided into the Upright and the Trailing. I shall first proceed to describe those of the former character.

Jasminum fruticans, or Large Leaved Yellow.—This is of very strong growth, and rises to the height of from five to six feet; the leaves are trifoliate, and broader than most other hardy species: they are placed alternately, are thick, smooth, and of a fine green colour, and in warm localities, a portion of them will remain on during the winter, but in this latitude the winters are generally too severe; the flowers are yellow, they are produced in June or July, and succeeded by dark blue berries, which has caused it to be called by some the Berry-bearing Jasmine.

Jasminum humile, or Italian Small Leaved.—This is easily distinguished from the foregoing by its more slender shoots, and its very small leaves; the bark of the younger shoots is green even in winter, and its foliage is in part retained during the same period, which renders it a sub-evergreen. It generally attains to the height of from three to four feet, and its yellow flowers are produced in July. It is esteemed for being one of the most hardy species, and its

whole appearance is far more delicate than that of the former one.

Jasminum revolutum, or *Nepal Yellow*.—This has been, until lately, treated as a Green-house plant, but it is now found to bear the winters of England unprotected, and will doubtless withstand ours also, which I am now testing by experiment. Its flowers are yellow, and larger than those of either of the preceding; its leaves are of good size, and the whole growth of the plant is strong and vigorous. This is the last of the hardy upright Jasmines, and I will now proceed to describe the trailing ones.

Jasminum officinale, or *White Flowering*.—The varieties of this species are the only trailing or running ones that have been found to withstand our winters. They consist of the three following:—

Common White Flowering.

Gold Striped Leaved.

Silver Blotched Leaved.

The first of these is of most vigorous and rapid growth, and a strong plant will form shoots of the length of 20 feet or more in a season; it is exceedingly well calculated to train against the sides of houses, where its fine green leaves, interspersed with its delicate white blossoms, afford an attractive appearance. The *Gold Striped* variety is particularly admired for its beautiful foliage, but its growth is much more slow than the preceding. The *Silver Blotched* variety is of quite rapid growth, and is apt in such case to lose or run out of its stripe, which is only retained while the plant is in some degree stunted. I have not found this the case with the *Gold Striped*, whose leaves almost invariably retain their beautiful variegated appearance.

The number of species of the Jasmine which require Green-house protection is very considerable: for remarks on which the reader is referred to that head.

Glycine, or *Kidney-bean Vine*.—Of this there are two hardy species that are shrubby, both of which are runners or vines, viz.—

Glycine frutescens, or *American Shrubby Glycine*.—This is of very strong and vigorous growth, and will run to a great length, often forming shoots from 20 to 30 feet in a season. It will speedily cover an extensive bower or arbour, for which purpose no vine is better adapted. It produces

spikes of fine blue pea-blossom shaped flowers in great abundance when the plant is of suitable size: these are extremely beautiful, and bear a resemblance to those of the Perennial Lupin. Even in the southern states, where this plant is common, and a native, it is deemed one of the most magnificent climbers. In the vicinity of Charleston, I have noticed that it is often erroneously called Barton's vine, whereas that title belongs to plants of a very different genus.

Glycine sinensis, or Chinese.—This species, yet very rare even in Europe, was introduced to this country, by the author, about four years since. From every appearance it will form a vine nearly or quite as vigorous as the preceding. It has not yet flowered here that I am aware of, but has produced flowers in England; and they are described in several of the European publications of the past year as extremely beautiful, and the plant represented as one of the most desirable on that account.

Kentucky Coffee, or Gymnocladus canadensis.—This tree, which is found from Canada to Tennessee and Kentucky, grows to the height of from 30 to 50 feet, according to soil and locality, but its diameter is always small in proportion to its height. Those generally seen in gardens are only from 20 to 30 feet in height. In summer, when clad with foliage, it has a fine appearance. The flowers are not very showy, and are succeeded by large pods containing round brownish seeds. But its appearance in winter, when divested of foliage, is peculiarly striking; for having few branches, and its terminal ones being disproportionately large, and blunt at the ends, it bears a resemblance to a dead tree. Its unique appearance seems to form one of its strongest claims to notice.

Evergreen Ivy, or Hedera helix.—Of this there are several varieties, all of which are esteemed as climbers, for which purpose their fine foliage, which they retain through all the rigours of winter, renders them particularly desirable. In autumn, they are also decorated with clusters of berries, of a blue or yellow colour, according to the variety. Those cultivated consist of the following:—

English Blue Berried.
English Yellow Berried.
Silver Striped.
Gold Striped.
Irish Broad Leaved.
Pottic, or Classic.

All of these make rapid shoots, except the latter, which advances more slowly. From time immemorial, the Ivy has been interwoven in the themes of classic lore, until its very name seems to possess a degree of veneration. It has also been most inappropriately selected as one of the emblems of Bacchus. So far from being a suitable emblem of festivals and wine, the Ivy seems to seek the most retired scenes of nature, and is found most to flourish when covering the ruins of dilapidated buildings, and in secluded spots, where the footstep of man is scarcely known; and, as Mrs. Hemans has most elegantly and appropriately expressed it, that seems its favourite spot—

“Where revelry hath long been o’er.”

There it seeks to enliven, with its perennial verdure, those lonely scenes which have nought else left to cheer them; and, by entwining itself around the broken fragments and shattered remains of fallen buildings, it seems to bind up the ruins which time has created.

In addition to those described, there are various other species, which, being natives of the East Indies, and other warm climates, must be treated as Green-house plants.

Deciduous Ivy, or Creeper.—*Cissus.*—Of this species there are several hardy climbers, all of which are natives of our country, viz.—

Cissus hederacea, or Virginian Creeper.—This is also called American Ivy. It is of most rapid growth, and perhaps no vine will more speedily cover a given space; its roots fasten themselves strongly into wood, or into the mortar between the bricks, when trained on walls; the leaves are quite large and palmated, and change to a fine red in autumn. Unlike some other vines, it will grow with great luxuriance even in the confined parts of cities, and may be considered one of the best vines for covering the unsightly parts of old buildings, or other places. There is a distinct variety of this species, whose leaves are hairy.

Cissus ampelopsis, or Heart Leaved Creeper.—This is nearly as vigorous in growth as the preceding, and has much the same general properties, except that it does not attach itself so strongly to buildings, but seems better calculated to run over arbours than to ascend perpendicularly. The shape of its leaves form an agreeable contrast to the preceding.

Cissus stans, or Delicate Leaved.—The foliage of this is extremely delicate, the leaves being bipinnate. It shoots

with great rapidity, and is a more beautiful vine than either of the preceding, and may be applied to the same purposes. Being a native of the southern states, it will not support so great a degree of cold as the two preceding ones; and although it withstands the winters of Long-Island, it is doubtful if it would succeed much further north. It is sometimes called Pepper Vine.

Witch Hazel, or Hammamelis virginica.—This forms a branching shrub, of from four to five feet in height; it produces its yellow blossoms in autumn; they have no great beauty, and it is only the time of flowering that renders them worthy of notice; the foliage has nothing particularly attractive, and only serves, by being profuse, to form a dense shrub.

Privet, or Prim.—Ligustrum vulgare.—This shrub is generally known, and was formerly greatly cultivated for hedges in this country, and is still so in many parts of Europe. The hedges formed of it are beautiful in the extreme, arising from its fine myrtle-like foliage, and its abundant clusters of berries in autumn and winter; and, when the sub-evergreen variety is used for this purpose, it possesses the advantage of retaining much of its foliage during the winter season. When planted separately, as ornamental shrubs, they have an interesting appearance, and it is only their being common which causes them to be less often used for this purpose. There are several varieties, viz.—

Common Black Berried.
White, or Yellow Berried.
Narrow Leaved.
Variegated Leaved.
Evergreen.

The Privet will thrive even beneath the shade and drip of trees, and amid the smoke and confinement of cities. It flourishes best in a moist situation, but seems to accommodate itself to almost any soil. It has been wrongly considered by some as a native of this country, to which it was long since introduced from Europe.

Honeysuckle.—Under this head are a large number of species, which, by former arrangements, were all of the genus *Lonicera*, but, by modern changes; they have been placed under several heads as different genera. I will proceed to describe them in such manner as I consider will be best understood by the reader.

Lonicera caprifolium, or *Early White Flowering*.—This is the one whose flowers first make their appearance; they are produced in great abundance around the ends of the branches, and have a fine odour; the time of bloom is soon over, and the flowers are succeeded by red berries. This is of rapid growth, and well calculated as a climber. It is frequently called the White Italian Honeysuckle. There are two other varieties, the one with red, and the other with yellow flowers, both of which are more rare with us than the preceding.

Lonicera peryclymenum, or *English Woodbine*.—This is one of the finest running species, and is highly valued for its abundant flowers. The shoots of some of the varieties are less strong, and advance with less rapidity than others. They consist of the following:—

Common English Woodbine.

Oak Leaved.

Variegated Oak Leaved.

Striped Monthly.

Belgic, or Dutch.

Red Flowering.

Late Flowering.

Caprifolium sempervirens, or *Scarlet Trumpet Monthly*.—This is one of the most desirable species, as well for the great vigour of its growth as for its abundant produce of fine coral coloured flowers, which expand throughout the season. It is a native of the southern states, but bears our severest winters, and even will generally retain some few leaves at the extremities of the branches during that season. There is a variety with deeper coloured flowers, which are of a smaller size, and produced more scantily.

Caprifolium gratum, or *Evergreen*.—This has leaves of less size than the preceding, of which it retains a considerable proportion during winter; the flowers are scarlet.

Caprifolium fraseri, or *Yellow Trumpet*.—The flowers of this resemble the Scarlet Trumpet, except in colour, which, being a fine yellow, renders the plant very interesting.

Caprifolium pubescens, or *Yellow Pubescent*.—This is strikingly distinct from all others. The leaves are hairy; the flowers a dark yellow. It grows with great rapidity, and has attracted much attention in Europe, where it has been but latterly introduced, being a native of our western wilds.

This, as well as all previously described, are vines or runners. I will now proceed to describe the upright species.

Lonicera tartarica, or *Early Tartarian*.—This is among the first that greets us with its flowers in spring; it forms an upright shrub of from four to five feet, and sometimes more. The common variety has flowers that are red, or somewhat variegated; but there is also a white variety. These may be considered among the most desirable Honeysuckles, particularly the red one, which is most known and cultivated; its berries are also red, and produced in pairs.

Lonicera xylosteum, or *English Fly*.—This also forms an upright shrub of from six to eight feet, and sometimes more; the bark is grey, or whitish; the flowers are a pale straw colour; the leaves are downy, and stand opposite, by pairs. Its flowers are produced in June or July, and are succeeded by red berries.

Diervilla lutea, or *Arcadian*.—This forms a low shrub of from three to four feet in height, throwing up a great many radical shoots; its flowers are yellow, and are produced in loose bunches, both at the ends and at the sides of the branches. Though its flowers make no great show, still the *Diervilla* forms an agreeable variety among other shrubs of low growth.

Xylosteum ceruleum, or *Blue Berried*.—This forms a shrub of about four feet in height; the leaves are oblong, of a fine green, and stand opposite, by pairs; the flowers are white, and are produced in May from the sides of the branches, and are succeeded by blue berries, which ripen in August.

Xylosteum nigrum, or *Black Berried*.—This does not differ much from the preceding in flowers or in foliage, but its berries are black, and grow in pairs, whereas the former produces each berry singly and distinct.

There are various other species of the Honeysuckle; such as the *Xylosteum caucasicum*, *ciliatum*, &c. which have been recently introduced into the collections of the author; the *Lonicera sinensis*, or *Chinese Honeysuckle*, has also been found to be perfectly hardy, and descriptions of these will appear in a future publication.

Boxthorn, or *Lycium*.—Of this there are three hardy species now cultivated in this country, all of which are vines or twining shrubs, viz.—

Lycium barbarum, or *Common Boxthorn*.—This is called by some Matrimony Vine, and often, by the French, Blue

Jasmin; it has also been foolishly re-named, in this country, Washington's Bower—a custom altogether misapplied, when it refers to old well known plants, and which only serves to create confusion and disappointment. This produces small blue flowers, somewhat resembling a Jasmine, which come out two and three together; the branches are delicate, and are covered with a greyish bark. They may be trained to a considerable length, and the foliage being delicate, the plant has rather an interesting appearance. It has spines on the branches, and the berries it produces are red, but not abundant.

Lycium europæum, or European Boxthorn.—This has much broader leaves than the preceding, and its thorns are much larger; the flowers are of a purplish colour, and are succeeded by great numbers of red berries, which ripen in September, and are very ornamental.

Lycium sinense, or Chinese.—This is of recent introduction, and cannot in consequence be particularly described at present.

Periploca, or Virginia Silk.—This is a native of Syria, but has, by some circumstance, obtained a local name, which has no application to it. It is a fine climbing plant, and will wind its ligneous shoots around whatever tree, hedge, or bower, that is near it. The foliage is ornamental, being of a fine green on the upper surface, and hoary beneath; but the flowers afford most pleasure by their curious construction: these are monopetalous, but are divided into segments, so as to have a star-like appearance, and some have found a resemblance between them and some curiously formed insect. Several of these flowers grow together in an umbel; they are of a chocolate colour, and blow in July and August.

Plane Tree, or Platanus.—Of this there are four species, but three of which I have yet seen in our country, which are as follow:—

Platanus occidentalis, or American Plane.—This is so well known by the above name, and by the titles of Buttonwood, and American Sycamore, that a description would seem superfluous. Suffice it to remark, it forms one of the largest trees; and I have particularly noticed, that in this vicinity it is more frequently struck by lightning than any other.

Platanus orientalis, or Oriental Plane.—This, at first glance, strongly resembles the foregoing; it attains to a great height, and prodigious size, and is in England considered one of the finest ornamental trees; the leaves are

large, and somewhat palmated; and the tree is particularly admired for the immense canopy it forms, and the impenetrable shade afforded by the number and size of its leaves, and consequently affording the most grateful coolness in a sultry climate.

Platanus acerifolius, or *Maple Leaved Plane*.—This differs from the preceding, in being a tree of smaller growth, with deeply indented leaves, which are much admired.

Syringo, or *Philadelphus*.—It is but a few years since two species only of this shrub were known either to the gardens of Europe or of this country. Now, no less than ten species and varieties are cultivated. The general appearance of these shrubs is so well known, that minute details are deemed unnecessary. I will confine myself therefore to their general titles.

Philadelphus coronarius, or *European Fragrant*.—This is the most common; it forms in time a very large compact shrub, and its white blossoms impart a most agreeable odour. Of this there are three other varieties, viz.—the Semidouble Flowering, producing single flowers and semidouble ones on the same plant; the Dwarf, which forms a low shrub, only from a foot and a half to two feet in height; and the Variegated Leaved Dwarf, similar to the preceding, except that its leaves are beautifully variegated.

After these come the following:—

P. grandiflorus, or *Carolina Large Flowering*.

P. inodorus, or *Carolina Scentless*.

P. latifolius, or *Broad Leaved*.

P. gracile, or *Delicate Branched*.

P. laxus, or *Diffuse*.

P. nepalense, or *Nepal*.

All these, except the latter, have been increased considerably at the author's establishment, and they form a highly interesting group.

Poplar, or *Populus*.—With the general aspect of the trees of this genus most people are so familiar, that I will merely recapitulate those most generally esteemed as ornamental.

Populus alba, *Abele*, or *Silver Leaf*, (already described at page 86.)

P. dilatata, or *Common Lombardy*.

- P. nigra*, or *Blackish Barked*.
P. tremula, or *European Aspen*.
P. trepida, or *American Aspen*.
P. hudsonica, or *American Black*.
P. balsamifera, *Balsam*, or *Tacmahac*.
P. nana, or *Small Leaved Balsam*.
P. angulata, or *Carolina Cotton Tree*.
P. monilifera, or *Canada*.
P. græca, or *Athenian*.
P. grandidentata, or *Large Dendated Leaved*.

Poplars in general, when young, are very ornamental, and many of them form fine trees when they have attained to a large size. There appears to be a great prejudice against some species of the Poplar, but, as a tree of rapid growth, and calculated to promptly form an ornament, it is not surpassed. With regard to the Athenian Poplar, I have to remark, that the one which is usually sold by that name in this country is incorrect.

Juniper, or *Juniperus*.—Under this head, I will confine my remarks to the species of Juniper commonly planted for ornament, and to the Savin. The Red Cedar, so common in our country, and which belongs to the same genus, it is unnecessary to describe; and most of the other species of Juniperus, esteemed as ornamental trees, will not support the winters of this latitude. Many of them are, however, well calculated for the southern states, and on that account have been introduced by the author, and descriptions of them will form part of a more enlarged publication hereafter.

Juniperus succica, or *Swedish Juniper*.—I consider the one commonly cultivated for ornament to be of this species. It is a very hardy shrub, and will grow in almost any soil. It is most admired when trained in a conical form, which is done by tying up the straggling branches compactly in autumn; and if this course is regularly pursued, the shrub will retain the form thus given to it. They may also be clipped to any shape, to suit the fancy of the owner. Trained in the foregoing manner, I have seen them form a regular and beautiful cone to the height of from 16 to 18 feet; and, through all its minor stages, it is very ornamental, from its perpetual verdure and unique appearance. The leaves are narrow and sharp pointed, and grow by threes on the branches; the flowers are small, of a yellow colour, and make no figure; they are succeeded by blueish berries,

which are so well known as forming a necessary ingredient in the manufacture of gin. These are produced in so great abundance, that it is a matter of surprise that some persons have not formed plantations of the Juniper, for the purpose of supplying our distilleries with an article for which at present they have to be dependant on foreign countries.

Juniperus sabina, or Savin.—Of this there are three varieties. The Spreading Savin is a low shrub, the branches of which have a natural inclination to grow horizontally, and seldom rise above two feet in height; the leaves are acute pointed, stand erect, and are very closely set, so that it forms one of the most interesting low evergreens; its flowers are not conspicuous, and it produces but few berries; it is in request for diseases in horses, and is said to be eminently useful in such applications. The second variety differs only in being more upright than the foregoing; but the third, which is the *Striped Leaved*, is the most beautiful—the ends of its young shoots are often of a cream colour, and the older foliage is finely variegated, so that for persons who are fond of plants of this character, this has much to recommend it, though it never attains to great size.

Mespilus.—Of this there are numerous species, but I will only describe those most admired, viz.

Mespilus arbutifolia, or Arbutus Leaved.—This forms an upright shrub of from four to six feet in height; the leaves are spear shaped, and change to a reddish purple colour in autumn; the blossoms are white, and are produced in clusters at the ends of the shoots, and expand in May. It is the fruit, however, which forms the principal ornament. These are red, and are produced in numbers at the extremities of the shoots, and hang on long after the foliage is past; giving to the shrub, during the autumnal months, a very showy appearance; at which season, when the bush has become large, it forms one of the greatest ornaments of a shrubbery.

Mespilus pyracantha, or Evergreen Thorn.—This has very dense foliage; the leaves are small, and of a fine dark green; it produces abundance of white flowers, which are delicate, and much admired; but, like the foregoing, it is its fruit which gives it the greatest claim to beauty. These are of the same size as those of the preceding species, they are of a fiery red, and are produced in the greatest abundance, and retain their beauty during the autumnal and part of the winter months, and serve to decorate this shrub at a season when nature most needs their aid. Being a sub-evergreen,

and retaining a large proportion of its foliage during winter, gives it another claim as an appendage to the shrubbery. It is now considerably planted for hedges, for which purpose, uniting beauty with usefulness, it does not appear to be surpassed by any other.

Mespilus botryastium, or Snowy Flowered.—This is a native of our woods and swamps, where, in the month of April, its myriads of clusters of white blossoms cheer the almost leafless scene. It rises to the height of from six to eight feet, and forms a thick bush, composed of numerous shoots, which spreads on all sides from the root; the leaves are oblong, smooth, and slightly serrated; and the flowers are succeeded by purplish berries about the size of a large pea, which are frequently called June berries, from their period of ripening. This shrub has been recently united by some authors to the genus *Pyrus*.

Mespilus amelanchier, or Alpine Amelanche.—This shrub grows to the height of about three or four feet; the younger branches are of a reddish purple colour; the leaves are oval and serrated, green on the upper surface, and downy beneath; the flowers are white, and are produced at the ends of the branches in the same manner as the foregoing; the fruit is black, of a sweetish taste, and ripens in autumn. Although forming a shrub of but moderate size, still it is esteemed for its beauty, but I consider it inferior to the preceding. It is a native of Austria, France, and Italy. In like manner, as the preceding, it has by some been united to the genus *Pyrus*.

Shrubby Cinquefoil, or Potentilla.—Of this class there are two species, the *Potentilla fruticosa*, and *floribunda*—the former grows to the height of about four feet; the leaves are of a pale green, and palmated; the flowers are of a bright yellow, and form the only thing that is worthy of much notice in this shrub, which, in other respects, is more an object of curiosity than beauty. The *P. floribunda* principally varies from the other species in the great profusion of flowers it produces.

Trefoil Shrub, or Ptella trifoliata.—This generally rises to the height of from eight to ten feet, forming an irregular head; the leaves are trifoliate, whence its title; the flowers are white, but not conspicuous; the seeds are flat, and nearly round, somewhat resembling those of the Elm in shape, but much larger.

Oak, or Quercus.—By far the larger number of species of

this tree are natives of the United States and Mexico. I shall confine my remarks to those European species which are most admired, and to one of those of our own country.

Quercus robur, or English Royal Oak.—This considerably assimilates in appearance to our White Oak, and is considered as the finest timber tree of England. It is celebrated for living to a great age, and attaining to an immense stature. Dr. Hunter mentions a tree of this kind then growing at Cowthorp, in Yorkshire, which measured 48 feet in circumference, at three feet from the ground. Of such immense importance is this tree, that it has been stated by some authors, that the British nation owes to it its very existence as a nation. In that country, it is esteemed as one of their finest ornamental trees; but here, where we have so great a diversity of the same species, the English Oak is seldom seen. It has one valuable quality as an ornamental tree, it retains its verdure till January.

Quercus Pedunculata, or Peduncled Oak.—This resembles the foregoing in foliage and general appearance: the principal difference is, that the fruit, or acorn, of the former, is sessile; while on this it is supported by a long peduncle, or footstalk, a distinction that I believe does not apply to any of our native species, and which renders it quite a curiosity—the peduncle connected with the cup and acorn having much the appearance of a pipe, such as is used for smoking. There is a variety of this with variegated leaves.

Quercus cerris, or Turkey Oak.—This forms a tree of middle stature; the leaves are green on the upper surface, and downy beneath; they are oblong, and so deeply indented, as to appear somewhat lyre shaped; the cup of the fruit is small and prickly, and the acorn smaller than those of the two preceding species. This is remarkable for holding its fine foliage very late in the season.

Quercus exoniensis, or Luccombe Oak.—This resembles the preceding very considerably, but has the advantage of being a sub-evergreen; and, when the winters are not too severe, will hold the greater part of its foliage during that season.

Quercus ilex, or European Evergreen Oak.—This, from its perpetual verdure, is exceedingly well calculated for ornamenting a shrubbery, and generally attains here to the stature of a small tree; the leaves much resemble those of the Holly, whence it derives its specific appellation. Of this fine evergreen there are numerous seedling varieties. I con-

sider this and the following one as the most desirable species for ornament, but both need some protection in this latitude during our severest winters, which, somewhat further south, is altogether unnecessary.

Quercus suber, or *Spanish Cork Oak*.—This is the tree whose thick bark supplies the world with such immense quantities of cork as are used for bottles, and other purposes. The leaves are of an oblong oval figure, and serrated on their edges—their upper surface is smooth, and of a fine green, and beneath they are downy; the acorns are very long; the bark on old trees is rough and spongy, but, on young shoots, smooth and grey. In addition to its being a great curiosity on account of yielding the genuine cork, it is an evergreen of very fine foliage, well calculated to adorn pleasure grounds. I have already mentioned, that in this latitude it needs some covering in severe seasons.

Quercus virens, or *Live Oak*.—This is the tree which yields the imperishable timber used in the construction of our national and merchant ships. It also forms one of the finest ornamental trees that our country can boast of; its foliage much resembles the varieties of the common Olive, and on the young plant these will be of a great variety of shapes; its growth is slow, and it will not support the winters in the vicinity of New-York without protection, although it does those of England. It may, in the course of time, become acclimated to this latitude, but, until then, its full development must be confined to more southern localities.

Buckthorn, or *Rhamnus*.—Of this genus I will particularize but two species, viz.

Rhamnus catharticus, or *Sea Buckthorn*.—The leaves of this tree are oval, and pointed at the ends, and about two inches long, with serrated edges; the flowers are green, and produced in clusters from the sides of the branches, and are no way conspicuous; it rises to the height of 14 or 15 feet, throwing out numerous shoots on all sides, and produces, during the autumn, abundant clusters of black berries, which form its principal ornament. It has long been used in Europe for hedges, and has latterly been planted in this country for the same purpose; and I have seldom seen a more beautiful hedge of any other shrub, and consider it extremely eligible for that purpose.

Rhamnus paliurus, or *Christ's Thorn*.—This grows naturally to the height of from 12 to 14 feet, sending forth numerous slender branches on all sides, which are armed

with sharp thorns; two of which are at every joint. One of these thorns is straight and upright, the other is bent backward. Hanbury says, this is undoubtedly the species of which the Crown of Thorns for our Saviour was composed. It grows naturally about Jerusalem, and in many parts of Judea. It is on this account more particularly that it has been introduced to the gardens of the curious.

Rose Bay, or Rhododendron.—Of this there are numerous species, all of which are delightful appendages to the garden—several being evergreens, which, for the most part, have fine foliage, and in every case producing beautiful flowers. I shall, however, in this limited work, confine my descriptions to a small number of the most conspicuous.

Rhododendron ponticum, or Pontic Rose Bay.—This has been more extensively cultivated than any other; its leaves are large and glossy, of an oval form, or pointed, according to the variety; the flowers are produced in clusters at the ends of the shoots, and, in the common species, are of a fine purple colour: they expand in July, and, taken in connexion with the handsome foliage of this plant, render it one of the most ornamental and desirable shrubs. It flourishes in any good common soil, but it is said a situation somewhat sandy suits it best. There are about 20 varieties of this species, which have been obtained by long cultivation, and rearing from seeds; these are of various colours and shades, and are now in the author's establishment in a course of increase.

Rhododendron maximum, or American Rose Bay.—This is not unfrequently called the Mountain Laurel, which term is also often applied to the *Kalmia latifolia*. This is one of the finest species known, and is found growing naturally upon the sides of mountains, and in wet swamps of White Cedar, and other trees, where it flourishes beneath the shade of the forest that thickly overhangs it. The leaves are very large and beautiful, and of an oval form; the flowers are produced about midsummer, in large clusters, at the ends of the shoots: these are very abundant, make a fine show, and continue to flower in succession for a long period. When planted in gardens and shrubberies, they generally form branching shrubs of about six feet in height, but, in their native wilds, they often rise to 16, and even 20 feet. The most proper situation for planting them, seems to be beneath the shelter of large trees, but they will succeed when placed in an open exposure. I have found a mixture of bog

or wood mould, and some sand, with any good common soil, to be suitable for them. Both this and the preceding one are evergreens.

Sumach, or Rhus.—Of this tree there are numerous species, the most of which are natives of this country, and generally well known. I shall limit my observations to two species, which are interesting exotics.

Rhus cotinus, or Venetian Sumach.—This is also well known by the name of Purple Fringe Tree. It generally forms a large shrub of nine or ten feet, but a tree of it, which had grown for a long course of years in the ancient garden of the author, and which had been planted by his father, attained to the height of 18 or 20 feet. The leaves are nearly oval, and stand singly upon long petioles: they are of a pleasant green, quite smooth, and add greatly to the beauty of the shrub; the flowers are produced at the ends of the branches during the month of July, and continue for a long period: they are of most singular formation, being produced in large hair-like bunches, of a fine russet colour, which afterwards change to brown: these are so numerous, as almost to cover the tree, and give it that most singular and unique appearance which renders it so universally admired. The wood is said to dye yellow, and the leaves and young twigs to dye black. It is a tree of the most easy culture, accommodating itself to almost any soil.

Rhus coriaria, or Tanners' Sumach.—This grows to the height of about 10 feet, and the branches are covered with a brownish hairy bark; the leaves are alternate, of a pinnate form, and generally consist of eight pairs, and a terminate foliole: they are of a light green colour, and hairy on the under surface, with serrated edges; the flowers, which are of a whitish green, and no way showy, are produced in large bunches at the ends of the branches. It is this shrub which furnishes the celebrated Sicily Sumach, so useful and necessary in tanneries, immense quantities of which are thence exported throughout the world. It has long been a desideratum to obtain this shrub, and those imported under this name, from three extensive nurseries in England, proved in every case incorrect: other trees being substituted, and, in two cases, those of distinct genera. Attempts to obtain it from France were also unsuccessful; and the author then turned his attention to the Island of Sicily itself. The two first parcels which were thence received failed to survive the voyage, but the third attempt was eminently successful,

and those then obtained are now in a most flourishing state, having been received in the summer of 1826.

Acacia, or Robinia.—This genus comprises many beautiful shrubs and trees, principally natives of Siberia and our own country, a few of which I will mention.

Robinia pseud-acacia, or Yellow Locust.—This I mention first, as being the most important. Its lofty stature, invaluable properties as timber for ships, and other purposes, are well known to every one. In fact, it is to the northern what the Live Oak is to the southern states, the English Oak to Britain, and the Teak to India. The immense and increasing demand is, however, fast sweeping away our large forests of this valuable tree, and it is high time our attention should be directed, in a national point of view, to the re-planting of forests so invaluable to our commerce, and so indispensable to our rising navy. For, unlike the Live Oak, which advances with a slow pace, this is of rapid growth, and soon attains to a size applicable to the various parts of ship building. The attention of the British nation has been much attracted to this tree, and, within a few years, millions have been planted in that country. Pamphlets have been there published, pointing out its usefulness in a national point of view, and seem to have awakened them to a sense of its importance, in re-placing the forests of the Oak, which are gradually diminishing. Within a few years, many of our enterprising landholders have been devoting their attention to planting extensive tracts with this tree, the wood of which is in so much request for our shipping. An acre of these trees, planted at two feet distant each way, will contain 10,890; at three feet distant, 4,840; and at four feet distant, 2,722; and it is said no appropriation of land is more lucrative than that devoted to this purpose. Aside from its usefulness, it forms one of the finest ornamental trees, where those of a large size are required. Its fine pinnated leaves, and long pendant clusters of white blossoms, scenting the air with their fragrance, give it a just claim to our admiration in this respect.

Robinia viscosa, or Pale Red Flowering.—This will attain to the height of 15 feet, and forms a highly ornamental tree. It is easily known by its dark coloured and glutinous bark. It commences flowering when not over five or six feet in height, and the flowers, which are papilionaceous, are of a pale red, mixed with white, hanging in pendant clusters in the same manner as the preceding. At this pe-

riod the tree is exceedingly beautiful. Its roots are creeping, and form numerous suckers, which it is troublesome to keep down. This tree succeeds best in a sandy soil. Michaux, in his *Sylva*, states, that some well informed cultivators have stated to him, that seeds of this species have produced the Common White Locust. On a point so improbable, and so completely put at rest, by a consideration of their native localities, we, on this side of the Atlantic, may be allowed to be a little sceptical.

Robinia hispida, or *Rose Acacia*.—This is easily distinguished by its more humble stature, seldom rising above four feet, and by the young shoots and footstalks of the flowers being covered with hairs; it produces abundance of very large rose coloured blossoms, which hang in numerous clusters on all sides of the shrub, and being interspersed among its fine pinnated leaves, give it a beautiful appearance; and, in addition to those which bloom early in the season, it frequently flowers a second time, though in a less degree towards autumn, on the young shoots of the same year. This little shrub merits a place in every garden; it is of the easiest culture, increasing rapidly from the roots, and seems most to flourish in a sandy soil. There is a variety of this of much larger growth, of which the flowers are very similar. Both may be grafted on the common Locust.

Rubus, or *Bramble*.—I shall enumerate a few species, which are objects of curiosity and ornament. There are a number which are particularly useful for their fruit, but are too well known to need remark.

Rubus fruticosus, or *European Bramble*.—The varieties of this worthy of notice here are the

Double White Flowering.

Double Pink Flowering.

Thornless Bramble.

Parley Leaved.

Variogated Leaved.

The *Double White Flowering* produces large clusters of flowers, of great beauty and delicacy, which resemble small roses; the vine is very strong, often running 20 feet, or more, in a season, if not impeded. The *Double Pink Flowering* is less vigorous in its growth, and produces abundance of small flowers, of a delicate rose colour. The *Thornless Bramble*, so long a desideratum, produces single pink co

loured flowers, but its principal curiosity is being devoid of thorns. The *Parsley Leaved* is particularly interesting, on account of its delicate foliage, which, being finely cut, has a handsome appearance. The *Variogated Leaved* is also very beautiful, on account of its varied foliage—the single flowering kinds produce small black eatable berries, similar somewhat to those of our native species, but of less size. There is, in addition to the foregoing, the *White Fruited Bramble*, which has been considered as an anomaly in nature. I have once possessed this kind, and had it to produce fruit, but by inattention lost it; I expect, however, soon to receive it again. This variety has given rise to a bull: for, when persons have first seen it, they have expressed their surprise, by exclaiming—"Here is a Bramble with white black berries!"

Sambucus, or Elder.—Of this there are the following, which are curious or ornamental:—The *Gold Striped Leaved*, producing on some shoots only green leaves, and on others those that are beautifully variegated. The *Parsley Leaved*, with foliage finely cut, and of an interesting appearance, on account of its singularity. The *Red Flowered, or Sambucus pubescens*, producing clusters of buds, which, when they first push out, are red, but afterwards vary in expansion. There are also other varieties, such as the *Silver Striped, Silver Dusted, White Berried, &c.*

English Nightshade, or Solanum dulcamara.—This is a vine whose foliage has no great beauty; its principal value consists in being a quick and vigorous climber; it produces numerous clusters of blue or purplish flowers, which much resemble those of the potato, and are succeeded by bunches of oblong red berries, which ripen towards autumn, and add much to its appearance at that season. There is a variety with beautifully variegated leaves, which does not run so much as the preceding; and another is said to exist, with white flowers—the latter I have not been able to obtain.

Mountain Ash, or Sorb—Sorbua.—Of this genus there are several species worthy of cultivation as ornamental trees, in describing which I will commence with the most interesting.

Sorbua aucuparia, or Mountain Ash.—This is also called, in Scotland, the Roan Tree, and has long been considered as one of the greatest ornaments of Highland scenery. The flowers are small, white, and produced in large corymbs during spring; the foliage is very fine in every respect; the

leaves are pinnated, and of a fine dark green; added to which, they are retained until very late in the season. The trees generally attain to the height of 25 feet, with a fine compact and well formed head; but its principal beauty is its fruit, which consists of bright red berries, united in very large clusters on the end of almost every branch of the tree, where they remain from the end of summer until winter, and serve to adorn and beautify when nature seems to become naked and cheerless. In very productive years, such is the appearance of the tree, when clad with its scarlet fruit, that at a distance it seems as in a blaze. It will thrive on almost any soil, either rich or inferior, moist or dry, and is never affected by severity of weather; it will, therefore, bear an exposure in the most bleak and exposed situations. From all considerations, this may be considered as one of the first among ornamental trees of medium stature. In some instances, trees of this kind have had their bodies partly covered with a flat grey insect, but these may be easily and effectually removed, by the application of soft soap, spread over the body and branches with a common white wash brush; or, if much covered with the insect, the bodies of the trees should be scoured with soap and sand till the bark is freed from them, and manure dug in around the roots, to renew the vigour of the tree.

Sorbus americana, or American Mountain Ash.—This somewhat resembles the preceding, but its leaves are much larger, and of a paler green; the berries which compose its clusters are also smaller, added to which, it loses its foliage much sooner, as autumn advances; the tree is also of less stature than the preceding, and, in gardens, seldom rising above 12 or 14 feet, and forming a far less regular top than the foregoing. Its large clusters of bright red fruit are nevertheless beautiful, and although it is not equal to the European, it possesses claims to our attention.

Sorbus domestica, or European Service Tree.—This is distinguished for producing eatable fruit, which, in some parts of France and Italy, is served up in desserts, for which purpose the tree is there cultivated. It forms a tree of rather larger size than the European Mountain Ash, and is a fine tree for ornament. The young shoots during summer are downy, as if covered with meal, and in winter they are of a purplish colour, with white spots; the leaves are finely pinnated, and downy on the under surface; both the foliage and white flowers much resemble those of the Mountain

Ash. There are several varieties differing in the size and shape of the fruit, as well as in the time of their ripening.

Sorbus hybrida, or *Bastard Mountain Ash*.—This appears to be a hybrid, between the one first described and the *Sorbus aria*. It is of upright growth, not forming a very spreading head; the leaves are quite downy, and half pinnate; the flowers and fruit are produced in the same manner as the preceding.

Sorbus aria, or *White Beam*.—This is also called *White Leaf*. It grows naturally in the colder parts of Europe, and will attain to the height of 20 feet. The leaves are green on the upper and white on the under surface: they are oval, serrated, and about three inches in length; the branches appear as if powdered with meal, and, in connexion with the foliage of two colours, have a very curious and striking appearance; the flowers are white, grow in large bunches, having whitish or mealy footstalks, and are succeeded by red berries, which ripen in autumn. This, as well as all the foregoing species, will flourish in any common soil, and are trees of easy culture. They are occasionally subject to be injured by the same flat insect as the Mountain Ash, but soft soap, brushed over the bodies of the trees once every spring, will destroy them.

Spiræa.—This genus comprises many shrubs of delicate and beautiful appearance, which are mostly natives of Siberia and North America, viz.

Spiræa hypericifolia, or *Hypericum Leaved*.—The leaves of this are very small, and the flowers are exceedingly delicate and beautiful: these are white, and produced in the greatest profusion along the branches, forming in many instances long wreaths. It attains to the height of about five feet.

Spiræa salicifolia, or *Willow Leaved*.—The flowers of this are also white, and are produced in panicles, more or less diffuse, and are much admired. This forms rather a taller shrub than the preceding, and its leaves are also of larger size.

Spiræa opulifolia, or *Guelder Rose Spiræa*.—This is called by the above title, on account of the resemblance of its flowers to the Single Flowering Guelder Rose, or Snowball. It is also called *Nine Bark*, from its bark peeling off frequently, and discovering an inner one; the leaves resemble those of the Common Currant, except in being of a larger size; the flowers open in June or July, are small and

white, and after they have been sometime expanded, have a reddish tinge: they are very numerous, and united in large umbels, which have a fine appearance: they are succeeded by bunches of reddish capsules, of an angular form, which add to the appearance of the shrub in the autumn. It attains to the height of seven or eight feet, and will succeed well in almost any soil, and with little or no care.

Spiræa sorbifolia, or *Sorb Leaved*.—This is a low shrub, rising to two or three feet in height, a native of moist land, both in Siberia and North America. It is very singular for its expansion of new leaves during the first warm period that presents itself in the winter months: these are beautifully pinnated, so as nearly to resemble those of the Sorb, or Service Tree; the flowers are white, and are produced in panicles, at the ends of the branches, during the month of July.

Spiræa crenata, or *Hawthorn Leaved*.—This is also a native of Siberia, and much resembles the *Hypericum Leaved*, first described. It is, however, of lower growth, and will not exceed four feet in height; the leaves are small, and serrated at the ends; the flowers are produced in May, from the sides of the branches, for nearly the whole length, and make a fine display.

Spiræa tomentosa, or *Red Flowering*.—The flowers of this species are produced in pyramidal spikes, and are exceedingly delicate and beautiful. It attains to the height of from four to five feet, and is found, in immense numbers, growing in moist land, in the state of Massachusetts, and in other parts of the Union; and it is, perhaps, its being so common in some localities, that has caused it to be less often introduced into the gardens.

In addition to the foregoing, there are many other species of *Spiræa*, which are interesting for the beauty or delicacy of their flowers and foliage, among which are the *lævigata*, or *Smooth Leaved Siberian*; the *chamædrifolia*, or *Germander Leaved*; the *betulifolia*, or *Birch Leaved*, &c. &c. In conclusion, it may be remarked, with regard to their culture, that they generally prefer a moist soil, but will also thrive in any good upland situation.

Bladdernut, or *Staphylea*.—There are two species of this shrub, viz.

Staphylea trifoliata, or *Trifoliata*.—This is a native; it grows to the height of six feet, or more; the old branches are marked all over with greyish spots; the bark on the young shoots is smooth, and of a yellowish colour. In addi-

tion to the leaves being trifoliate, they are produced by threes on the stalk, whence it has been also called the *Three Leaved Bladdernut*; the foliage is of a light green, and the flower buds appear very early in spring, but do not fully expand until May: they are white, and produced in pendulous bunches from the sides of the branches, and are succeeded by large inflated seed vessels, like bladders, which are both curious and ornamental.

Staphylea pinnata, or Pinnated.—This is easily distinguished from the preceding by its leaves, which have five folioles: they are of a pale green colour, and quite ornamental; the flowers are white, and are produced from the wings of the leaves in long pendulous bunches, and although the buds present themselves very early, do not open until May: they are followed by large inflated bladders, in the manner of the foregoing one, and the seeds, which are contained in them, are used by Roman Catholics in some countries to form their rosaries. The bark of this shrub is exceedingly smooth, the twigs are pithy, and, when broken, have a strong scent. It forms a shrub at maturity of about eight feet in height.

Lilac, or Syringa.—Of this shrub, several varieties of which are so well known, and have been so long cultivated in our country, there are a number of species, and a still greater number of varieties, all of which are perfectly hardy, and of the easiest culture, assimilating themselves to any common soil, and increasing rapidly by radical shoots. They consist of the following:—

Syringa vulgaris, or Common Lilac—This species is a native of Persia, but some of the varieties are now so plentiful in our gardens and hedge rows, that they seem as common as natives of the soil. The varieties are as follow:—

Purple Lilac.

Red Lilac.

White Lilac.

Large Flowering White.

Variogated Leaved.

The Purple, which is the most common, has, in some instances, attained to the height of from 16 to 20 feet, but, in general, seldom exceeds 10 or 12 feet. The Common White sometimes rises to the height of 12 or 14 feet, but the others are of less stature. The flowers of all the kinds

are produced in May, at the ends of the shoots, in large conical shaped bunches, and have a delightful fragrance.

Syringa persica, or Persian.—This fine shrub does not rise higher than from five to six feet; the branches are long, slender, and covered with a smooth brownish bark, with a bluish tinge; the leaves grow opposite, and are of a fine green; the flowers are delicate, and are produced in panicles, in the same manner as the Common Lilac, but of much smaller size. Thus far, the remarks apply to all the varieties, of which there are three, viz.

Purple, or Blue Persian.

White Persian.

Cut Leaved Persian.

The flowers of the White variety have a blue tinge when first expanded, but which passes off by degrees; in foliage, it resembles the Purple, the leaves of both being lanceolate. In the Cut Leaved variety, however, the foliage is very different, each leaf being finely divided into a number of segments, which gives them a delicate and interesting appearance, and renders this variety greatly admired. The flowers of this kind are exactly similar to those of the Purple variety.

Syringa chinensis, or Chinese.—This is also called the Siberian, for many of the plants received from China, and supposed natives of that climate, have been ascertained afterwards to have been brought to that country from Siberia. It has thence arisen that many species, which were supposed at first to be delicate, and were treated as tender plants, have, by experiment, been found to withstand our severest winters, which at once proves, that they were either natives of the northern provinces of China, or of some other locality equally cold. This species of Lilac seems intermediate between the species already described; the foliage is considerably larger than the Persian, and smaller than the Common; the panicles of flowers bear also the same proportion: they are similarly formed, and purple. It attains to the height of six or seven feet, and forms a very thrifty branching shrub. The foregoing include all that are known to Botanists, except the *Syringa media*, which appears greatly to resemble the one just described.

Tamarisk, or Tamarix.—There are two hardy species known to our gardens, both of which thrive in any good

soil, but being natives of low grounds, they prefer a moist situation; they may be propagated by seeds, layers, or cuttings.

Tamarix gallica, or French.—This forms a shrub of from 10 to 12 feet in height, and sometimes more. When it has arrived at a large size, the branches spread in an irregular manner, some being upright, some horizontal, and others drooping, but when young it is remarkable for the erect appearance of its shoots; the leaves are narrow, of a pale green, very beautiful, and give a delicacy to the shrub, for which it is greatly admired; the flowers are produced apparently in loose panicles at the ends of the branches, but, on examination, will be found to consist of numerous small spikes of flowers, arranged around the extremities of the shoots; the time of flowering is in July, but it often produces flowers later in the season. This is erroneously called, by some persons, the German Tamarisk, from which it is very distinct.

Tamarix germanica, or German.—This is of much lower growth than the preceding, seldom rising over seven or eight feet; the branches are brittle, and covered with a yellowish bark; the leaves stand closer than the preceding, and are of a pale green colour; the flowers are produced in long loose spikes at the ends of the branches. The plant is much admired both for foliage and flowers. It does not seem to do well in a dry sandy soil, but, as has been before remarked, prefers one that is moist.

Linden, or Lime.—*Tilia.*—This genus comprises some of the finest ornamental trees in nature, many of which are of lofty size, and elegant form. They are all propagated from seeds or layers, and they delight in a rich upland soil, where their growth will be proportionably rapid.

Tilia europæa, or Common European.—It is the common variety of this tree which has been already so much planted in various parts of the Union, and particularly in the city of Philadelphia. It rises in strong soils to the height of 70 or 80 feet, and in some instances in Europe has attained to 20 feet in circumference; the foliage is particularly soft and delicate for a tree of such large dimensions, and its white pendant flowers are very fragrant. It naturally forms a perfectly elliptical head, and even in winter, its appearance is rendered pleasing by its long and slender shoots. As a lofty standard tree, it is particularly eligible; and perhaps, for this purpose, there is none to excel it for ornament. In a

rich deep soil, it is of very quick growth, which is a great advantage. The wood is soft, light, and fine grained, resembling that of the Sycamore and Poplar, and is much used by carvers. It is from the bark of this tree that the Russian bass mats are made. In addition to the common kind just described, there is a variety called *Tilia aurea*, or Golden Barked, which has been recently introduced to the gardens of the author.

Tilia corallina, or *Red Twigged*.—This, in growth and in other respects, resembles the foregoing, but possesses the striking characteristic that its young shoots are of a deep blood red colour, which renders them particularly beautiful during the winter months, when deprived of foliage. Indeed, this species of the Linden is considered by many persons as much the more desirable on this account. By some authors it had been deemed only a variety of the common *Tilia europæa*, but in Sweet's *Hortus Britannicus*, it is arranged as a distinct species, under the title of *Tilia rubra*.

Tilia parvifolia, or *Small Leaved*.—This, in growth and flowering, resembles the two already described, but has much smaller leaves. It is rare in this country.

Tilia alba, or *Silvery Leaved*.—The young foliage of this is particularly beautiful, on account of the under side of each leaf being soft and downy, and of a white or silvery appearance. In other respects it resembles the species first described, but is one of the scarcest species.

Tilia americana, or *Common American*.—This is well known in our country by the name of Basswood. It rises to the height of 70 or 80 feet, in a conical or elliptical form, but when young does not seem to form quite so regular a shaped head as the European, and is not so rapid in its growth. When standing distinct, however, in its native localities, it is justly admired for its loftiness and grandeur.

Tilia pubescens, or *Pubescent American*.—This much resembles the preceding, except its leaves being somewhat pubescent. It has not yet been extensively planted for ornament, but in its native wilds it is particularly admired for the general properties for which the trees of this class are so much esteemed.

Viburnum.—There are various species of this shrub more or less ornamental for their flowers, fruit, or foliage: they are of easy culture, and accommodate themselves to almost any soil.

Viburnum oxycoccus, or *Cranberry Shrub*.—This obtains

its common name from the appearance of its bright red fruit, which is produced in large clusters, and resembles the Cranberry in colour, form, and pleasant acidity, and would be eligible for the same purpose, were it not that they contain pits, which form a considerable proportion of the size of the fruit. It forms a shrub of the height of from four to five feet; the foliage resembles that of the Common Snowball; the blossoms are white, and produced in numerous clusters, but it is the bright red fruit which is the greatest ornament, and which continues for a long time during the commencement of autumn.

Viburnum opulus-roseum, or Snowball.—This is the shrub which serves as a common ornament for almost every shrubbery under the last named title. The numerous large bunches of flowers which it produces, and its general appearance, are so well known, that a particular description would be superfluous. The author has recently obtained a variety with variegated leaves, which has been increased by inoculation on the common one.

Viburnum pubescens, or Pubescent.—This has been by some called the Rose Leaved. It forms a shrub of from six to seven feet in height; the leaves are dentated, and quite handsome; the flowers are white, and produced in clusters, and are succeeded by black berries.

Viburnum lantana, or Wayfaring Tree.—This forms a large shrub; the branches in winter are covered with a smooth greyish bark, and the young shoots are white and downy; the leaves are large, heart shaped, serrated on the edges, and full of large veins; their upper surface is dark green, but beneath they are white, and like cotton; the flowers are white, and expand in June, forming large umbels, and are somewhat ornamental: these are succeeded by berries, which are at first red, and then change to black. There is a fine variety with variegated leaves. This species of *Viburnum* likes a dry situation.

Viburnum nudum, or Oval Leaved—This is by some called the Entire Leaved; it grows to the height of seven or eight feet, and sometimes more; the leaves are pretty large, of a fine shining green, and grow opposite; the flowers are white, are produced in July, at the ends of the shoots, and much resemble those of the *Laurustinus*: these are succeeded by clusters of berries.

Viburnum lavigatum, or Cassoberry.—This is a shrub that seldom rises over four feet, but has the advantage of

holding much of its foliage during winter, which renders it a sub-evergreen; the leaves are oblong, lanceolate, and serrated; the flowers are white, and are produced in small and delicate clusters, and are succeeded in autumn by small berries. There are numerous other species of the *Viburnum*, such as the *cassinoides*, *dentatum*, *prunifolium*, *acerifolium*, &c. all of which have their peculiarities, and are suitable for an extensive and diversified shrubbery. The *Laurustinus* is also a species of *Viburnum*, but although it withstands the winters of England, it will not support those of Long-Island, and cannot therefore be treated of under the head of hardy shrubs.

Willow, or Salix.—This genus includes trees from those of very lofty growth down to the most diminutive shrubs, natives of regions far remote from each other. They may all be increased by seeds, layers, or scions.

Salix babylonica, or Weeping.—This is more disseminated in our country than any other exotic species, and may be considered as the most ornamental of the whole number. It is partial to a moist situation, and is said to be a native of the banks of the Euphrates, whence its specific title. It, however, flourishes in almost any situation, spreading its roots to a great distance in the earth, and extracting, by their wide extension, the necessary sustenance for a lofty development. It will attain to the height of from 40 to 50 feet, or more, forming a fine majestic and spreading head, with its long pendulous branches gracefully drooping on all sides: and this tree is calculated, when standing distinct, to form, by its fine outline and peculiar elegance, one of the most pleasing variations in ornamental pleasure grounds. Its growth is very rapid, and it consequently soon becomes of a size to afford shade and ornament. It is said, that in ancient times, lovers' garlands were made of the wreaths of this tree, the branches of which are so slender and pliable. It has also, in latter years, been frequently selected as suitable for planting in burial grounds, or to mark the existence of insulated tombs; and a tree of this species now droops its branches over the remains of that arbiter of empires—the much persecuted Napoleon. At a lonely spot, selected by himself, near his abode of Longwood, lies entombed the man, of whom history must hereafter record *this mighty truth*, that the concentrated energies of the most powerful empires were scarcely able to parry his single arm, and to whom, after depriving him of all power, garrisoning his country

with their united legions, and draining from her the most enormous contributions, they dared not grant a feeble liberty, but banished him to a distant and almost desert isle, with thousands to guard its shores, and watch his footsteps.

From respect to the memory of Napoleon, branches have been plucked from this tree, and planted in our American gardens, several of which are now flourishing at Newport and at Providence, as well as at the establishment of the author. A distinct species of Willow has, however, been dedicated to him by Botanists, under the title of *Salix Napoleona*.

Salix alba, or Upright Green.—This is, in England, called the Huntingdon Willow, and also the White Willow. It is of quick growth, and attains to a very large size, often reaching to the height of 40 or 50 feet. It flourishes well on almost any soil, and forms, by its upright growth, a fine contrast to the preceding.

Salix vitellina, or Golden.—This will not attain to as great height and dimensions as the preceding, but will rise to 30 feet, or more. Its growth is upright, but it is the peculiarity of its branches, which are of clear yellow, and produce a striking effect among other trees, that renders it most worthy of notice.

Salix nigra, or Black.—The great peculiarity of this tree is, that its shoots are purple, or nearly black; it is of but moderate stature, and will probably not much exceed 12 feet at maturity—in fact, it always seems to be more of a large shrub than a tree.

Salix lucida, or Sweet Flowering.—This only forms a shrub, and in gardens rises to about five or six feet in height; the leaves are of a fine glossy green, and the flowers, which are of a pale straw colour, are very sweet.

Salix caprea-variegata, or Variegated Leaved.—This forms generally a large shrub, but may be trimmed low for ornament; its beauty consists in its foliage, which is prettily variegated; the blossoms are large, yellow, and much sought after by bees, as they expand very early in the season. In England this species is called the Sallow.

Salix viminalis, or English Common Ozier.—This is a tree of low growth, but the shoots grow amazingly long and strong in one year from the stools, which renders it so very useful for basket-making, &c.; the leaves are long and narrow, of a bluish green on the upper and hoary on the under surface.

Salix forbyana, or *English Basket Ozler*.—This forms very long slender shoots, in the manner of the preceding, and is extensively used for the same purposes.

Salix helix, or *Rose*.—This is a low growing tree; the body is covered with a rough yellow bark; the branches are upright, tough, and of a reddish colour; the leaves are narrow, smooth, and spear shaped; the flowers come out from the sides of the branches, are of a greenish white colour, and have a singular and pretty appearance.

Salix rubra, or *Red Stemmed*.—This attains to about the same dimensions as the preceding, and, with the three before described, comprises those kinds most extensively used in Europe for basket-making, and other similar purposes.

There are various other species of the Willow, many of which are very curious, and some of them of beautiful appearance; descriptions of all of which cannot be comprised in this limited work. Those here described are, however, considered the most useful. They are, for the most part, natives of moist soils, and the species of Willow suitable for baskets are generally planted in such situations, and often form the outline of wet meadows, being planted along the ditches that are made to drain off the superfluous water. They thus occupy space of little value, but well calculated to make them yield a great profit, by their abundant shoots. The immense expanse of meadows between New-York and Newark, which some enterprising gentlemen have been long engaged in reclaiming, might, without further expense, be appropriated to this object, and thereby furnish the means for extensive manufactories of basket-work to a degree more than adequate to supply the city. It is somewhat a matter of astonishment, when such quantities of articles of this description are annually imported, that no persons have yet formed establishments of the kind.

Elm, or *Ulmus*.—Of this there are several species, all of which are admired ornamental trees, and several are excellent timber trees, while others are of too diminutive stature for the latter purpose.

Ulmus montana.—*Scotch*, or *Witch Elm*.—This forms a tree of immense size, and has, in some instances, attained in England to 25 feet in circumference, at five feet from the ground; the leaves are very broad and oval, and calculated for ornament; the tree is of stately growth, and when it has arrived at a large size, is very majestic, and in appearance sometimes resembles the lofty oak, though in general pos-

sessing less regularity of form. The wood of this species is very useful as timber, and is less liable to split than most other kinds of wood.

Ulmus campestris, or English Elm.—This does not grow to near the size of the preceding; the leaves are of smaller size, and are retained rather later in the season; it is of stately growth, and fine appearance, forming a less spreading head than the Scotch. There is a curious variety of this, called the Curled Leaved.

Ulmus americana, or American.—This forms a very majestic tree; spreading its arms in various directions, and affording abundant shelter and shade. When the tree is of some size, the ends of the branches assume a pendent form, which has caused some to call it the Weeping Elm.

* *Ulmus alata, or Wakoo.*—This is a native of the southern states, and forms a tree of moderate size; its great peculiarity is, that the body is covered with excrescences resembling cork, which renders it an object of curiosity; its foliage, and other general appearances, do not vary much from other trees of its class.

Ulmus suberosa, or Dutch Cork Elm.—This has formations on the body of the tree similar to the foregoing, but attains to much greater stature.

Ulmus chinensis, or Chinese Small Leaved.—The foliage of this easily distinguishes it from all the preceding, the leaves being quite small; it attains to but moderate size, and forms a striking contrast to the more lofty species of this genus.

In addition to the foregoing, there are the *Ulmus glabra*, or Smooth Elm, and a variety of it with variegated leaves; also the *Ulmus modiolina*, or Twisted Elm of France, which is said to be of the same character for ornamental furniture as our famous Curled Maple. Elms generally will not thrive on light sandy land, but delight in a stiff strong soil; even there, however, their growth is not so rapid as in a rich loose soil, though the timber is closer grained and more durable. It will bear placing in quite a wet situation.

Scotch Broom, or Spartium scoparium.—This shrub, which is in such great plenty in different parts of Scotland, England, and Ireland, as to subserve one of the commonest purposes of the household, is also one of the most ornamental shrubs that can aid to decorate the shrubbery. It grows to the height of six feet; the branches are very numerous and flexible, and the bark is quite green; the leaves are both

simple and trifoliate, the upper part being of the former, and the lower part of the latter description : these will be sometimes retained by the plant for a portion of the winter, but when entirely divested of foliage, its numerous shoots being green, give to it a pleasant appearance. It is the flowers, however, which constitute its principal beauty : these expand in the month of May ; they are large and yellow, of a papilionaceous form, and are produced in such profusion in some seasons, as almost to cover the shrub ; the seeds grow in compressed pods, are small, and of a kidney shape. There is a variety with white blossoms, and another with variegated leaves ; there is also the *Spartium junceum*, or Spanish Broom, with single and double flowers, but this latter species is not sufficiently hardy to support the winters of this latitude, though it would suit the climate of North-Carolina, and south of it.

Dyers' Broom, or Genista tinctoria.—This is a native of England, where it is often called Dyers' Green Weed. It grows about three feet high ; the leaves are lanceolate and alternate ; the branches are delicate and channelled ; in June its yellow flowers are produced in spikes for the whole length of the shoots, and render the shrub extremely beautiful : these are succeeded by pods, which ripen their seed during autumn. There are other species of the *Genista*, viz. the *candicans*, *canariensis*, &c. but the most of them are rather too delicate for the winters of this locality.

Whin, or Furze.—Ulex europæus.—This is a native of the same countries as the preceding, and is there so common as to be often used as fuel ; it also, in some cases, serves as food for horses ; it is an evergreen, and clad with abundant foliage, which is somewhat harsh and rigid ; the flowers are produced in great numbers, and the general appearance of the plant is quite ornamental : it is a shrub of very easy culture, and will grow on almost any soil, but is sometimes destroyed by our severest winters. There is a variety with double flowers, which is rare, and much the most esteemed.

Toothache Tree, or Zanthoxylum.—The species common in this vicinity is the *Z. fraxineum*, or Ash Leaved. This grows to the height of 10 feet, has a rough bark, armed with short spines ; the leaves are the most ornamental part, being pinnated, of a dark green on the upper, and yellowish on the under surface ; the flowers are small, make no show, and are succeeded by berries. It easily increases by numerous suckers from the root, and may also be propagated by seeds.

Periwinkle, or Vinca.—There are four hardy species, and a number of varieties of this plant, now cultivated in American gardens, all of which are delicate vines, rising to the height of several feet if supported, but when this is not done they will trail on the earth, and will extend so as to form a bed of shoots and foliage for a considerable space around. The different species are the following :—

Vinca minor, or Small Leaved.—The common variety of this species is often called Running Myrtle; its stalks are green and slender, trail on the ground, and strike root at almost every joint, but if furnished with support, they attain to three or four feet in height; the leaves are smooth, of a shining green colour, and oval form; the flowers are monopetalous, and come out from the wings of the shoots. Those of the common kind are blue, but there are various varieties, as follow :—

Common Blue Periwinkle.

White Flowering Periwinkle.

Purple Flowering Periwinkle.

Double Flowering Periwinkle.

Gold Striped Periwinkle, with white and blue flowers on the same plant.

Silver Striped Periwinkle.

Silver Striped Broad Leaved Periwinkle.

These all possess the same general character, and are very neat appendages to the flower garden:

Vinca herbacea, or Hungarian.—This is absolutely herbaceous, as its specific title indicates, and is of more humble and delicate appearance than the foregoing, but may be trained to the height of two feet, or more. It is yet quite rare.

Vinca major, or Large Leaved.—This is far larger in all its parts than either of the preceding, the leaves being broad, and the stalks much more vigorous and strong; the flowers are blue, and also large; it will rise, with support, to the height of five or six feet, and when its numerous shoots are thus trained it is very ornamental. I have noticed, that although it possesses many advantages over most other kinds, it is more delicate in winter, and in severe seasons has sometimes nearly perished.

Vinca media, or Intermediate.—This, as its title would indicate, is of less dimensions than the last named, and of

greater than some others, and forms part of the link of this delicate class of vines.

European Alder, or Alnus glutinosa.—This will attain to be a large timber tree; it is natural to wet soils, but flourishes well in upland situations; it is said to be very suitable to plant along river banks which it is desirable to secure, as its roots are very strong, and become so much interwoven as to form a great support. It is also considered eligible to plant for timber in wet and low grounds that are useless for other purposes. In many respects it is well calculated for an ornamental tree, the foliage being of a pleasant appearance, the growth rapid and strong, and forming a handsome regular head; the blossoms resemble those of the Birch, and would not be considered of much note, were it not that they are produced in autumn, and hang on the tree during winter, intermingled with the seed vessels of the preceding year, which are of the shape of mulberries, and thus united they afford considerable ornament during the dreary months, when verdure is past. Indeed, at this period they give to the tree a cheering appearance, which renders it much admired. There is a variety of smaller growth, which has beautifully divided leaves, called the Cut Leaved; also another with variegated foliage.

Catalpa, or Bignonia catalpa.—This is considered a fine ornamental tree; it grows to the height of from 30 to 35 feet in this latitude, and further south doubtless to a much larger size. It should be planted at a distance from other trees, so as to allow its branches to expand, which they will do to a considerable length on all sides; the leaves are very large, and cordate; the flowers are borne in numerous clusters, are white, spotted with purple, and striped on the inside: these are produced in August, and being interspersed in abundance among the fine foliage, render the tree very attractive; the flowers are succeeded by very long pods, which continue on during autumn and winter, and shed their seeds in the spring. It is of quick growth, and the most easy culture, thriving in any common soil, and may be reared by seeds, scions, or layers.

Larch, or Pinus.—Of this tree there are two American, and one European species, viz.

Pinus microcarpa, or Common American.—This is called by many people Hackmatack, and grows naturally in low wet situations, where it forms a tree often of 40 feet in height; it will succeed in an upland soil, and its pale green

foliage, taken in connexion with their peculiar arrangement, render it very beautiful and interesting. The appearance also of the small cones when young is worthy of notice, and adds much to its ornament at that period. In this particular there are three varieties, viz. those producing white cones, brown cones, and red cones. These variations, which are so striking during the growth of the cones, are not equally discernable at their maturity, as they then become dry and lose their colour.

Pinus larix, or European.—This is the well known tree so much planted in Scotland and England for its timber, and which is so often mentioned in descriptions of Scottish scenery. It forms a lofty tree, and will grow extremely well on almost any soil, even on those that are barren, and as well in clay soil as others. It thrives exceedingly even on the declivities of hills and the sides of mountains, and will resist the severest cold, and is therefore calculated for bleak situations. Its growth is rapid, its timber very valuable, and it is a beautiful tree for ornament.

The third species is the *Pinus pendula, or Drooping Larch*, about which there seems some confusion in different authors; I shall therefore reserve my comments for a future occasion.

Thorny Acacia, or Gleditschia.—There are several species of this tree, some of which are natives of this country, and others of China.

Gleditschia triacanthos, or Three Thorned.—This is frequently called Honey Locust, and is very common in our country. It forms a large tree; the leaves are delicate, and pinnated; the flowers make no show, and are succeeded by abundance of large, long, and broad pods, of a reddish brown colour, which hang on during autumn and winter. The thorns of this kind are red, and from the main one there are generally two others, which spring out nearly opposite to each other. There is also a variety which has no thorns.

Gleditschia monosperma, or One Seeded.—This is a native of the states south of the Potowmac, and is easily distinguished by its pods being small and short, and containing but one seed. It is generally called Water Locust, on account of its natural situation being low and wet. It there forms a tree of 50 feet in height, and from one to two feet in diameter; the branches are armed with thorns, which are less numerous than on the preceding: its foliage, however, is very similar to the above. It will flourish on any good upland soil.

Gleditschia macroacanthos, or *Chinese Large Spined*.—This resembles the preceding somewhat in foliage, and is particularly remarkable for its very large reddish thorns, which have a striking and peculiar effect. Its growth is rapid, and it can be increased from seeds, or by ingrafting. Some other species of the *Gleditschia* may be seen in the garden of the author, among which are the *horrida*, the *purpurea*, &c.

Pride of India, or *Melia azederach*.—This tree is well known for its fine deep green pinnated foliage; the leaves are long, and particularly beautiful, being of a shining green on the upper surface; the flowers are produced in July from the sides of the branches in long clusters: they are of a bluish lilac colour, and very fragrant. These are succeeded by yellow berries of the size of a haw, and in great numbers; the hard kernel each encloses is used in some Catholic countries to form part of their rosaries, from which circumstance it is by some called the *Bead Tree*. It is not yet sufficiently naturalized to withstand our severest winters without protection, and is often killed to the ground, unless bound up with straw. Further south, however, it is extensively planted for ornament, and the streets of Savannah, and other southern cities, are ornamented with it. The growth is very rapid, and almost any soil will suit it.

Osage Orange, or *Maclura aurantiaca*.—This tree is also called *Bow Wood*, and *Yellow Wood*. It has already attained to the height of about 20 feet in garden culture, but is said to far exceed that height in its native regions of Missouri and Arkansas. Several trees at the establishment of the author are now from nine to ten inches in circumference. It is well calculated, by its fine foliage and curious fruit, to form one of our most interesting ornamental trees; the leaves are of good size, oval form, and placed alternately on all sides of the branches: they are of a fine glossy appearance, very numerous and closely set, and impart a great degree of beauty to the tree; added to which, their verdure is retained after that of most other trees is past; the flowers are not of much note, but the large fruit, of the size and form of the *Orange*, which decorates the tree during the autumnal months, render it particularly worthy of notice. The outer surface of the fruit is rough and warted. It was some years since supposed to be eatable, and that it would become an appendage to the dessert, but that idea is now ascertained to be incorrect. The bark on

the young shoots is perfectly smooth, and of a light brown colour, but on the old wood it becomes rough, and is of a yellowish hue; the branches are armed with thorns, standing singly, one at every joint, and as they surround the stalk, of course point in every direction. It may be trimmed so as to form a clear body with a handsome head, or by leaving the numerous shoots, be allowed to form a large and dense shrub. I have already stated, at page 84, that I considered it eligible for hedges, being of very quick growth, and soon forming an impassable barrier by its numberless shoots armed with thorns; and, for this purpose, it has the advantage of being easily increased by layers, and tolerably so by scions—whereas the species of trees and shrubs commonly used for hedges, require to be reared by slow progress from seeds. The layers will take root in a few weeks, and may be planted in the line where the hedge is to be permanently formed, in the same manner as young Hawthorns, and they will form a sufficient enclosure much sooner than the latter, and in beauty of foliage far surpass them. The Osage Orange is dioecious, and to have mature fruit, it is necessary to possess both the male and female varieties. The latter is very plenty, but the male is quite rare. A number of them are, however, in possession of the author, and they have already been sent by him to several European collections. The two varieties so nearly resemble each other, as not to be distinguished by general aspect. It has been thought probable that this tree may be found useful in the arts, the wood and roots being yellow, and said to afford a fine dye; and there seems much probability in this reasoning, when it is considered that the Dyers' Fustick, so extensively used, is found to be so nearly allied to the present species, that it has been transferred from the genus *Morus*, and ranged with this under the head of *Maclura*. It has been intimated, that they were in fact the same tree, but this supposition is very incorrect, as the author has them both in his possession, and the plainest observer can easily perceive striking distinctions. The Fustick is also very tender, and will not bear any degree of cold, whereas the Osage Orange is perfectly hardy, and bears the severest winters of this latitude.

Sensitive Tree, or Acacia julibrissin.—This tree, a native of the Levant, is the only species which has yet been found hardy enough to endure our winters in this latitude, and even this, when young, is apt to be injured if not partially protected. In the vicinity of Charleston, and some other of

our southern cities, it has become so completely acclimated as to appear almost indigenous; but in the vicinity of New-York and Philadelphia they are not numerous: here and there, however, a fine tree may be found from 10 to 15 feet in height—and a large one in the garden of the author produces its curious flowers, and matures its seeds regularly. The foliage of this tree is of a most delicate and beautiful description, being numerously pinnated, and of a very pleasant green. They are not sensible to the touch, but like others of this class close at night, putting on the appearance of rest and sleep. My advice to persons who wish to possess this fine Acacia is, to protect the plants in latitudes north of the Potowmac until they are four or six feet in height, by means of a covering of wood or straw, and raising the earth next the surface; after attaining this size, they will seldom be injured by cold, unless to the north of New-York.

Weeping Birch, or Betula pendula.—This tree has been often described for its fine effect in Scottish Highland scenery, where, with the Larch, the Roan, and the Laburnum, it serves to gladden and beautify the mountain cliffs. The aspect of this species when young greatly assimilates to that of our Common White or Poplar Leaved Birch, both in respect to foliage and to the whiteness of its bark, and it then maintains an upright growth—for it is not until it has attained to some size that its young shoots begin to droop, and gradually assume a weeping appearance. It is after they have arrived at this state that they are particularly ornamental. A tree, now standing on the author's grounds, is about 35 feet in height, but they surpass this in their native regions. It is no way difficult as to culture, and after once planted, will need little attention. With regard to soil, it will succeed in almost any, but like all other trees, its growth will be advanced or retarded according to the goodness thereof.

Purslane Tree, or Atriplex halimus.—This shrub grows to the height of five or six feet, forming by its spreading branches a broad head; the young shoots are covered with a white smooth bark, that of the older ones is of a light grey colour; the leaves are soft, white, silvery, and look well at all times, even in winter, as it retains its foliage at that season, and forms a fine contrast to the generality of evergreens. It is often injured in severe winters in this latitude, but a few degrees further south it will be free of such danger.

Groundsel Tree, or Baccharis halimifolia.—This is one

of the most interesting shrubs, and is a native of Long-Island; it will attain to the height of from nine to twelve feet, with numerous branches on all sides; the leaves are of curious form, and thickly set; the flowers are small, and make no great show: but the feathered seeds render the tree particularly attractive. These consist of innumerable small white tufts or plumes attached to the seeds, and which are spread over every part of the shrub, resembling delicate white flowers, so that a large grove of them at a distance has the appearance as if besprinkled with flakes of snow. To add to its value, it is during autumn, when most trees have lost their beauty, that this displays its interesting appearance, and the shrubs will begin to produce their curious seeds and feathered tufts when only from two to three feet high. It thrives best in a moist soil.

Nettle Tree, or Celtis.—Three species of this tree are known in our American gardens: they are trees of easy culture, not difficult as to soil, and not striking as ornamentals.

Celtis australis, or European.—This is also called the Lote Tree. It forms a tree of tolerably regular shape, with very numerous branches, and attains to the height of 18 or 20 feet in some cases; the leaves are of a pleasant green, three or four inches long, deeply serrated, terminating in a point, and bear some resemblance to those of the European Common Nettle; the foliage endures until late in the autumn; the flowers are not conspicuous, but the black berries which succeed them hang on during all the autumn and winter, and have a pleasant appearance. The wood is very durable, and said to be used in Italy for flutes, pipes, and other wind instruments.

Celtis occidentalis, or Common American.—This much resembles the foregoing in foliage and general aspect, but its berries are smaller, and not of so dark a colour. Like the preceding, they hang on the tree during the whole winter, unless plucked off by birds.

Celtis crassifolia, or Thick Leaved.—This is also called the Heart Leaved, from the nearly cordate form of its foliage, in which it differs from the foregoing. It is a native of the southern and western states, where it is known by the title of Hoop Ash, being, as I suppose, sometimes used for hoops. This will form a much larger tree than the preceding.

American Bittersweet, or Celastrus scandens.—This is a very common vine in this and several of the neighbouring

states, climbing over hedges along the road sides, and often ascending trees of considerable height. Common, however, as it is, I think it worthy of being introduced into ornamental grounds. It forms strong twining stalks, and grows with rapidity; the leaves are oblong, and serrated; the flowers come out in small bunches from the sides of the branches, and make no show, but the numerous clusters of fruit which succeed them are a great ornament; the berries are at first of an orange colour, but after frost they burst, and the outer envelope spreads open and displays the red inner covering of the seeds, and it is at this period that the contrast of yellow and red renders it most pleasing, particularly as it is at a season when nature seems almost naked and cheerless.

Poplar Leaved Wendlandia, or Wendlandia populifolia.—This is a delicate vine, with neat foliage of moderate size; the flowers are very small, and of a greenish white colour; the berries are of a fine red, and produced in numerous clusters, which impart great beauty to this highly admired vine. I am not aware to what height it will ascend, those I have not being yet at full size—but I presume they will attain to 10 or 12 feet in length. The shoots, although small, are numerous, and the foliage very closely set.

Japan Globe Flower, or Carchorus japonicus.—This elegant shrub, which is one of the most hardy ever introduced into this country, was at first treated as a tender plant. It will attain to the height of seven or eight feet, forming numerous slender shoots from the ground, with delicate branches near their summit; the shoots are green even in the depth of winter, and at the first opening of spring numerous flowers spring out at every joint, forming each of these long slender shoots into a wreath of bloom: these flowers are bright yellow and double, each resembling a double yellow rose, and it may be ranked among the most beautiful and highly ornamental shrubs that have ever been seen in our country. After the profuse flowering which takes place early in spring, occasional scattered ones will be produced during summer, towards the conclusion of which there will be a considerable show of flowers, but far less abundant than in the spring. This shrub is of the most easy culture, and will thrive in any common garden soil without care after being once planted, and will throw up numerous young plants from the roots.

Yellow Virgilla, or Virgilla lutea.—This is called in Tennessee, Yellow Wood, and by others Fustick, and forms in

its native localities a tree often 25 or 30 feet high, and sometimes more; the leaves are about eight or nine inches long, and pinnate, with alternate folioles; the flowers are papilionaceous, and form long elegant pendulous clusters, in the same manner as the Laburnum or the Common Locust; the wood is yellow, and forms a yellow dye, which art has not yet been able to render permanent.

Holly Leaved Barberry, or Berberis aquifolium.—This shrub is an evergreen, and is admired for the beauty of its pinnated foliage. It was discovered on the Rocky Mountains during the famous tour of Lewis and Clarke, and will consequently withstand the severest rigours of winter. The flowers form a most brilliant display—each is small, and of a fine yellow—but such numbers are congregated as to form large heads or clusters of great beauty. It appears to be a shrub of low growth. None of mine have attained to more than two and a half feet in height. Several persons have killed this plant by superfluous attention, and by treating it as a tender shrub. I have found, that when kept in pots, the plants lingered and died. There are two other species of recent introduction to our gardens, the *nervosa*, and *pinnata*.

Snowberry, &c. or Symphoria.—Of this native genus three species are at present known, viz.

Symphoria racemosa, or Snowberry.—This is one of the most ornamental shrubs that can deck the garden. It rises to the height of five or six feet, throwing out abundance of small shoots, at the end of each of which are produced clusters of small pink coloured flowers: these make no display, but are followed by numerous and abundant clusters of the most beautiful snow-white fruit, which bend the branches with their weight, giving the whole shrub a weeping appearance, and the fruit is often in such numbers as to bend the branches to the ground. It is but a few years since this shrub was brought from the Rocky Mountains, but so greatly has it been admired, that it is now found in gardens throughout our country.

Symphoria glauca, or Glauca Leaved.—This species is of later discovery than the preceding, and does not attain to above half its height; the leaves are glaucous, and the clusters of flowers and fruit less numerous, but greatly resembling the foregoing in colour and dimensions.

Symphoria glomerata, or Indian Currant.—This forms a shrub of about five feet in height; the branches are numerous; the leaves are small, oval, and very profuse; the

flowers are small, and make no show, but are followed by red fruit at every joint and leaf about the size of currants, which give it an interesting appearance, and remain on until late in winter. All three of the foregoing are of easy culture; they will thrive in almost any soil, and throw up numerous shoots.

Andromeda.—This genus comprises numerous species, mostly natives of our country, but my limits will not allow me to describe many.

Andromeda corymbulata, or *Box Leaved*.—This is a very low shrub, its stature not exceeding one and a half or two feet; the leaves are very small, and its flowers exceedingly delicate and white—the latter are produced at the opening of spring in long spikes, and are highly admired.

Andromeda paniculata, or *Panicled*.—This is about four or five feet in height; the leaves are oblong, pointed, and alternate; the flowers come out in numerous panicles from the ends of the branches during the month of July: they are white, and make a neat appearance. The other varieties most planted for ornament are the *A. racemosa*, *coriacea*, *axillaris*, &c. &c.

Franklinia, or *Gordonia pubescens*.—This is one of the finest flowering trees our country can boast of, and will attain to 30 feet or more in height, but those generally seen in ornamental plantations do not much exceed five or six feet, being rather shrubs than trees. This arises from their tops being so frequently killed down in our severe winters, and can only be guarded against by giving them a wood or straw covering during severe weather, until they have become strong and hardened. The *Franklinia* is admired for the beauty and fragrance of its large white flowers, with gold coloured stamens, which they commence producing when very young, and will produce equally well if trained as shrubs as if formed into trees. A rich moist soil is most suitable for it. The *Gordonia lasianthus*, or *Loblolly Bay*, which forms so fine an evergreen, will not support our winters unless protected by a frame.

Trumpet Creeper, or *Bignonia*.—Under this head are enumerated some of the finest American climbers, viz.

Bignonia radicans v. *flammea*, or *Large Flame Coloured*.—This is the species which is so common in adorning arbours and bowers, and is trained against the sides of houses, &c. It forms one of the strongest vines, and will strike its numerous roots into wood, or the mortar between the bricks,

&c. throwing out numerous shoots on all sides, and quickly forming a dense summer covering with its branches and foliage. The leaves are opposite, and pinnate; and the fine large flowers are produced in July and August in numerous clusters—each is of the form of a tube, expanding at the mouth like a trumpet: they are of a fine flame colour, and make a great show.

Bignonia radicans v. coccinea, or Small Scarlet.—This resembles the foregoing in every point, except that the flowers are of a much deeper red; the shoots are also not quite as large and strong. This is often called *Bignonia minor*.

Bignonia grandiflora, or Chinese Trumpet Creeper.—The flowers of this are larger than either of the foregoing; it will also throw out its shoots to a great length, but these must be supported and trained, for they will not throw out roots and support themselves like the two before described. It is a most admirable species when in flower, and supports the winters of this latitude uninjured. It is yet rare in gardens.

Bignonia crucigera, or Cross Leaved.—This is also a very fine climber, and has the advantage of being evergreen; the leaves grow in pairs, and these pairs are opposite, so as to form four at each joint: they are of an oblong form. This vine is furnished with clasps, or tendrils, by which it easily ascends where there is any thing to attach them to. The flowers are curious, and of a brown and orange colour.

Bignonia capreolata, or Capreolate.—This I have obtained from different quarters as a distinct species from the last mentioned, but the general character is very similar. It is considered as having rather larger leaves and flowers, and that the latter expand more than those of the *B. crucigera*.

Carolina Yellow Jasmins, or Gelsemium nitidum.—This is justly celebrated as one of the most beautiful climbers; the shoots are small and delicate, but if trained against a wall, or any other support, they will mount to a great height by their twining stalks; the leaves are single, lanceolate, and ornamental; but it is the fine bright yellow flowers of a trumpet form, and exhaling the most delightful fragrance, that give such value to this plant. In our more southern states, where it is found wild twining round the trees of the forest, it perfumes the air for a considerable distance around

during the season of its bloom. This requires protection in winter.

Chinese Koelreuteria, or Koelreuteria paniculata.—This is a shrub or small tree of recent introduction to our country; the leaves are pinnated, and the branches spread around in rather an irregular manner; the flowers are yellow, of singular form, and are produced in large panicles: these are succeeded by bladder-like seed vessels somewhat similar to those of the Bladdernut. Some of these shrubs now in my grounds are 10 feet high, and I know not to how much greater height they may attain.

Concluding Remarks on the Culture of Ornamental Trees and Shrubs.

As in most cases the soil best adapted to the respective species has been stated, I will only make some few general remarks, grounded on the experience of a long course of years, which may be found useful to those who would be willing, by a small additional trouble and expense, to gain in the growth and vigour of their trees and shrubs what the same period of time could not otherwise effect. Autumn is the best season for removing hardy forest trees, except evergreens. If taken from a nursery, they are naturalized to an upland soil; but if taken from the woods or swamps, they should be planted in soil similar to that from which they were removed. The common method is to dig a hole scarce large enough to force in the roots of the tree, by this process the roots are more exposed to the frost in the winter, and to drought in the summer months. Where a rapid growth and vigorous tree or shrub is required, let the ground be opened to double the dimensions of the root, and one or two feet deeper than where the bottom of the root will extend, which, when planted, should be two or three inches deeper (according to its size) than its former position, first filling up the hole to that depth with a compost of some fine rotted manure, mixed with the best soil taken out of the same hole, if the tree is from a nursery; but if from a swamp, then let two-thirds of the earth filled in the hole be of bog earth from a swamp, mixed with common earth and some rotten manure. If the situation is exposed to the winds, stakes may be necessary to keep the trees in their places. In the spring have some litter placed around them, which

will keep the ground moist, and prevent the grass and weeds forming a sod, observing to have the earth hollowed a little when the litter is placed there. The ground should be turned over and mellowed in autumn, and any trees or shrubs that are observed to become mossy or bark-bound, should have the bodies brushed over in April with common soft soap. With this management, they will make more progress in three years than they would in six or seven years in the common way.

Evergreen Trees and Shrubs.

These, if taken from the woods, should be planted in winter with balls of frozen earth; but if taken from a nursery, where they have been naturalized to an upland soil, the preferable season for many kinds is the spring, as some evergreens fail when transplanted in autumn in a northern climate, especially if the earth falls entirely from the roots, and the frost penetrates to the earth below them when planted, which it seldom fails to do in the northern and middle states; this, however, may be remedied by strewing litter around them, to prevent the frost penetrating to the roots.

ROSES.

No class of plants, so easy of culture as this, yields more intrinsic delights to the amateur; the diversity of size, colour, fragrance, and form, have been varied by art to an almost infinite degree; and in the collections of Europe, above 1,400 varieties are enumerated. Since the catalogue of the author's establishment was put to press, above 100 new varieties have been received, and the collection now exceeds 600 varieties, including 100 kinds of China and India Roses, and 15 varieties of the Moss Rose. Enduring, as most of them do, the rigour of the severest winters uninjured, and yielding with so little attention such a rich accumulation of beauty and fragrance, every garden should possess at least all the more conspicuous varieties of this unrivalled flower; and it is hoped, ere long, we shall see the fashion followed in this country, which has for years prevailed in England, of training the hardy climbing varieties of the Chinese and other

twining Roses against the sides of our country houses and cottages, as the profusion of flowers which they daily afford from spring to autumn, gives to the retirement of these rural scenes a degree of Floral enchantment, and throws an air of magic round the spot.

Soil.—The Rose, with few exceptions, delights in a light fresh soil, not subject to become sodden with rain and wet. I have found a mellow loam very successful in causing them to flourish, and to throw out vigorous shoots and abundance of flowers; but the Rose is by no means difficult to accommodate to almost any soil not saturated by superabundant moisture.

Propagation.—The Rose is generally increased by suckers from the root, or by layers; there are also many kinds which succeed by cuttings, but these are principally the Chinese varieties. They may also be increased by inoculating and grafting, but these seldom survive beyond the third year, when others should be budded from them to supply their places.

Varieties.—These are so numerous, that it is impossible to give descriptions of them in this limited work. Many of them, however, have brief remarks attached to their names in the catalogue, descriptive of their characters. Although the author's collection is very numerous, still the selections have been made with great care, and they combine a rich accumulation of the varied beauties of this favourite flower. I will now proceed to make a few remarks relative to some particular varieties.

Moss Rose.—Of this there are a number of varieties, varying in colour, size, and other circumstances. The one most generally known is the Red Moss. The others are the Blush Moss, with very large flowers of an exceedingly delicate colour, and by many considered to surpass all others; the New Red Moss, and the Scarlet Moss, are very fine; the White and the Striped Moss, the Small Moss, Dark Moss, Single Moss, &c. are also much admired, and the whole form an unique collection in this family of flowers.

Yellow Roses.—There appears to exist some difficulty in making the Double Yellow to flower well—I will therefore remark, that it requires an airy situation, and does best in dry and gravelly soils; and that the old wood should be cut out near the ground every autumn, which will cause a succession of thrifty blooming shoots. When budded on the Common China, or the White Musk, it is said to bloom exceedingly

well; and one instance is mentioned by Loudon, where it was budded on the China rose at the height of 10 feet from the ground, in which case it was found to flower abundantly.

The following remarks are also extracted from his Magazine:—The Double Yellow Rose flowers better on an east or west, or even a north wall, than on one exposed to the south; it should never be pruned further than cutting out the dead and irregular shoots, and thinning out the blossom buds; it has flowered under such treatment for several years on the south and west ends of a house. It flowers as freely budded on the *Rosa indica*, as *Rosa odorata* does on the Common Blush Rose. Another writer recommends a northern aspect in preference to a southern one, and mentions one that bloomed very freely on an east or north-east wall, and others that had produced abundance of flowers when planted on a very dry chalky soil. The Single Yellow, and Red and Yellow Austrian, bloom freely in almost any soil, and with little or no care. There are various other yellow roses, viz. the Single and Double Yellow Scotch, the Yellow Tea Scented, the Yellow Multiflora, &c.

Black Roses.—The desideratum of a black rose has long been a subject of comment, but does not in fact exist. Those so denominated are of an exceedingly deep purple colour, with some shades of black intermingled. Of these some are darker than others, and they vary in point of size, form, and in being more or less double, &c. The author has imported from every country those which are there considered the darkest or blackest, which have all produced flowers, he is consequently able to give his opinions with accuracy. The darkest of these is the *La Belle Africaine*—next are the *Imperial*, the *Sable*, the *Black Mogul*, and the *Gloriosa Superba Noir*—then follow the other twelve varieties enumerated in the catalogue, including the *Tuscany*, which was a few years since the darkest then known, and is still considered as one of the most beautiful roses.

Tricolour, or Belle Alliance.—This is a most singular and beautiful rose; there is no other that at all approaches it in appearance. When first expanded, the petals are a fine red, striped with white, the colour afterwards changes to shades of lilac, united with the red and white, at which period it is most interesting. It was obtained from a very skilful Florist in the interior of Holland, and by him more highly prized than any other rose in his collection.

Sweetbriar, or Eglantine.—This delightful species of the

rose family is well calculated to train against the sides of houses, or up the pillars of the piazza, or to intermingle with the vines which entwine bowers, &c. There are a number of varieties, the most common is the Single Red, which is found frequently growing in wild luxuriance by the sides of roads, hedges, &c.; the next is the Single Blush, imported from Europe; after which follow the more rare varieties, viz. the Semidouble Red, the Double Red, Double Blush, Double Marbled, Double White, the Evergreen, and the Chinese White. Some of these are as large as a middle sized rose, and two inches in diameter. After training these in the situation they are to occupy, the branches may be inoculated with numerous other kinds of roses at a considerable height from the ground, which will render them particularly interesting.

CHINESE ROSES AND HYBRIDS.

Rosa odorata, or Tea Scented Rose.—This exquisite variety of the rose is now becoming widely disseminated in our country. The flowers are double, and of very large size when expanded, of a fine and delicate blush red, and possess a most delightful odour, resembling that of fine tea. It produces its flowers throughout the year most profusely. I have found it more difficult than any other China rose to strike root from cuttings. If budded on the White Musk Rose, it is said to flourish exceedingly well. A fine purple variety has been latterly introduced to our gardens of a similar delightful fragrance. There is also a variety with single flowers, and another with double yellow flowers, which are yet rare. The *Centifolia odorata*, or Sweet Hundred Leaved, is more double than the foregoing, but its fragrance is not so strong. Knight's *Animating* is another very sweet scented variety.

Champneys' Blush Cluster.—This is a double rose of small size, of a delicate blush colour, and the flowers are produced in numerous clusters. It was originated from the seed of the White Cluster Musk, (probably impregnated by accident with the pollen of the Blush China,) by my esteemed friend, the late John Champneys, Esq. of Charleston, South-Carolina, and from it have originated all the race of roses termed *Noisette*, which should therefore be placed as subvarieties of the *Champneys*. All the roses of this class are particularly beautiful, as their small and delicate flowers, produced in large clusters during the autumnal season, form a splendid additional appendage to the garden at that period when it

seems most to need their aid. The Champney, Noisette, and most of the varieties, may be trained against the sides of houses, over bowers, &c. to a very considerable length, although not quite so rampant in their growth as the different varieties of the Multiflora.

Noisette.—This rose, which is a variety of the preceding, is very similar to it in the size and colour of the flowers, but these are more double, and produced in larger clusters. It is an admirable variety, producing its flowers in large numbers together after the manner of the White Musk. It flourishes most in a free exposition, and needs no protection in winter. There are two other varieties, one with deeper red, and the other with single flowers.

Rosa Grevillii, or *Greville Rose*.—This species has attracted much notice in different parts of Europe and in this country, being quite a novelty in its general characteristics, and in commenting upon which I cannot perhaps give a better idea to the reader than by extracting the statements made in other publications. In the fourth number of Loudon's Magazine, page 467, is the following description given, in a letter from a correspondent to the editor:—

“You will no doubt recollect the shoot I showed you of my Greville Rose, which grew 18 feet in a few weeks—it is now in bloom, and is the most singular curiosity of all the rose tribe that has come under my observation; it grows on an east by north aspect, on the gable end of my house, covering above 100 feet square, with more than 100 trusses of bloom. Some of them have more than 50 buds in a cluster, and the whole will average about 30 in a truss, so that the amount of flower buds is little short of 3,000. But the most astonishing curiosity is the variety of colours produced on the buds at first opening; white, light blush, deeper blush, light red, darker red, and purple, all on the same clusters.”

In the report of the Horticultural Society of London for the month of June, 1826, the following remarks are made:—

“*Rosa Grevillii*, in a single fasciculus of flowers, are roses of every shade of purple, and from white to the darkest tint; it is one of the handsomest of climbing roses.”

The leaves are beautifully serrated on the edges, and those on the young shoots have a pink border running entirely round the leaf, and which, contrasted with the green, gives them a delicate and beautiful appearance; the petiole or leafstalk is broad at the base, and deeply indented on the

sides, so as to form narrow hair-like segments: the upper part where it joins the leaf is narrow and of the usual size. I have succeeded during the past season in rearing about 150 young, vigorous plants, two-thirds of which have been already disseminated throughout the Union, and near 500 more are in a progressive state, and will be fit for transplanting the ensuing season.

Rosa banksia, or *Lady Banks' Double White Multiflora*.—This rose, whose flowers are about the size of the blossoms of the Double Flowering Cherry, is fragrant, and possesses the odour of the Violet; the flowers are white, full double, and produced in clusters. It is an evergreen, and about as hardy as the Common Multiflora. It does not thrive when confined in a pot, but needs a large space for the expansion of its roots, and will then attain to its full development, throwing out numerous vigorous shoots to a great length. A plant is mentioned in the Transactions of the London Horticultural Society which covers a space of 40 feet. In this latitude it may in severe winters require some covering, but south of the Potowmac it would not need that attention; and its exceedingly fine evergreen foliage and delightful flowers render it one of the most desirable that can be cultivated in the southern states.

Remarks.—Having now given descriptions of some of the China roses, I will conclude by a few remarks on the other varieties. The Sanguinea is a deep crimson, and flowers very profusely; by many it is confused with the Old Double Velvet, Otaheite, or Semperflorens Rose, from which it differs by the flowers being more double, and the foliage of a deeper red. The Dwarf, or Pomponne Rose, is admired for its very small flowers and delicate foliage. The Lawrencina Rose is the most diminutive one known both in leaf and flower. The Resplendent Rose has very dark full double flowers of middle size. The Speciosa, or Splendid, has large and elegant flowers, which have buds frequently in the centre. The Subalba is a fine double rose, nearly white. The Albiflora; or Maiden's Blush, is very large, and of a pale pink colour—it is one of the most beautiful varieties, and greatly admired. The Blueish Changeable varies in the colour of its flowers after expansion, and is variegated with small white stripes. The Gold Striped is very singular, its bark being most curiously striped yellow and green; the flower is similar to the Common China, being large and bluish coloured. The Hybrid China produces delicate lilac

coloured flowers in clusters. The Boursaultian Rose is of a fine colour: the flowers are in clusters, and much esteemed. The Microphylla has very delicate foliage; but I have not seen its flowers, as it has only been introduced into this country the present season, when I paid a guinea for a small plant of it. The Bichonia Rose is curious, as the edges of the petals turn white after being sometime expanded. The climbing, or running roses, suitable to train against buildings, or on arbours, bowers, &c. are the following:—Common Multiflora, Roxburgh's White Multiflora, Lady Banks' Double White, Greville's Superb, Champneys, Noisette, Boursaultian, Hybrid, Macartney's, &c. There are a few varieties of the China rose that require winter protection in this latitude, which are designated in the catalogue, but I consider that even these will not require that attention south of the Potowmac.

Yucca.—Of this very curious genus there are several species which are already cultivated considerably as hardy ornaments in our gardens, and doubtless some others will equally withstand the rigours of winter.

Yucca filamentosa, or *Adam's Thread*.—This is in our vicinity the most common, and has long lanceolate leaves, pointed at the ends, with numerous threads on both edges, and which attain to a considerable degree of strength; the leaves are spread near the ground in a radiate manner, and remain during the winter. In summer the plant throws up a flower stem to the height of six or eight feet, which branches somewhat at its summit, and is garnished with numerous tulip shaped white flowers, which give to the plant a striking appearance. After these are past, the shoot which produced them dies away, and is replaced by another, which springs up in the course of the season from the same root. There is a most beautiful variety with variegated leaves.

Yucca flaccida, or *Flaccid Thready*.—This at first sight much resembles the foregoing, from which, however, it may easily be distinguished, the leaves of the former being more stiff and upright. On this they are quite soft and flexible, somewhat glaucous on the under side, and the filaments less numerous; the flower stem does not attain to near the height of the preceding one, seldom rising over three or four feet; the flowers are very similar, but as this species throws up more suckers from the root than the preceding, it has generally more flower stems, and makes a fine show. It

is this species which is frequently seen in the gardens around Philadelphia, where the former is far the most rare.

Yucca gloriosa, or *Dwarf Adam's Needle*.—The above botanic title has by different authors been considered as referring to species widely distinct, the one of low growth and hardy, the other growing to the height of 16 or 20 feet, and tender. It is the former of these two to which I have applied it. This has leaves more broad and stiff than either of the foregoing, placed in a radiate form, and wholly devoid of filaments. It will form in the course of a number of years a stalk from about one foot to 18 inches from the ground, gaining but two or three inches each year; on the summit of which are placed the leaves, and from their centre proceeds a strong stem supporting numerous flowers much resembling the preceding. The plants of this species require a longer time to come to maturity, and produce flowers less frequently than the two first described.

The other species, which are considered hardy, are the *Y. tenuifolia*, *angustifolia*, &c.

Pæonies.—No class of flowers has recently attracted more attention in Europe than this, a monograph of which has lately been published in London. Most of the varieties are extremely splendid, and others possess striking peculiarities. Anticipating that a similar taste would be evinced in this country, the author has by great exertion obtained every variety possible from Europe, and also a number from China; and so very splendid are many of the varieties, that descriptions would be given of the whole number, if the limits would permit; but the author must confine himself to three magnificent varieties from China.

Pæonia Whitleji.—This produces double white flowers of very large size, and of the greatest splendour, and which have also a most agreeable odour. From three to five flowers are produced on each stem, and they rise to the height of two and a half feet. There is perhaps no herbaceous Pæony which surpasses this either in magnificent appearance or in abundance of flowers.

Pæonia Humci.—This produces very large crimson flowers; the stems are from two and a half to three feet high, with two or three flowers on each stem.

Pæonia fragrans.—The flowers of this are of a deep rose colour, and of a most delightful fragrance, equal to the rose; the flower-stalks are taller than any other species, being generally three feet high, and producing from two to three

flowers on each. The best soil for Pæonies is a light loam with a little sand, and no plants flourish with less care.

Note. By reference to the catalogue, it will be seen that the collection now amounts to about 40 varieties, combining a great diversity of colours and shades. An airy exposition and a fresh loamy soil suits all species, and they will flourish and increase annually the number of their showy flowers. By recent experiments, it is ascertained that the varieties of the Shrubby Pæony, or Moutan, will stand our winters; but as they are generally considered as Green-house plants, they are treated of under that head.

Chinese Chrysanthemum, or Chrysanthemum sinense.— This plant is sometimes called Artemesia. The first variety was introduced to this country about the year 1798, having been carried from China to Europe in 1790. This was the Dark Purple, and was imported by John Stevens, Esq. of Hoboken, New-Jersey, a gentleman distinguished for his love of botany, as well as for other departments of science. About the years 1814 and 1815, many other varieties were introduced; but it remained for the last four years to present to the view the rich accumulation of splendid varieties which had doubtless been cultivated for ages in China, unseen and unknown to the rest of the world.

The numerous varieties of this, and of other plants which have recently been obtained from China, have excited much astonishment; and have proved incontestibly, that the Chinese are not only very able and experienced horticulturists, but that this taste must have existed for a very long course of years to bring it to its present state of perfection. The number of varieties of the Chrysanthemum already obtained from that country exceeds 50, among which are many of very great beauty, and others possessing striking peculiarities.

Many persons have an opinion, that all the varieties change into each other, but I have only found this the case with the Pale Buff changing to pink, the Lilac and White to plain lilac and plain white, and with one other variety. Although the great facility with which they are increased quickly renders them the appendages of every garden, still they should not be the less valued.

I consider the entire collection of this plant to form as interesting an assemblage in point of beauty and variety of form, &c. as can be found in Flora's domain, particularly as they fill up a period of the year to which are allotted few of her charms, and afford a most brilliant display at a

period when the chilling blasts of autumn have left us but the vestiges of departed verdure.

Great pains have been taken to obtain as many varieties as possible, and the following form the collection of the author:—

White Quilled.

Pale Buff, or Orange, changeable, red and orange flowers on the same plant.

Buff.

Purple.

Lilac Quilled.

Rose Coloured, or Pink.

Lilac and White, changeable, the flowers vary to lilac, white with a lilac centre, and to pure white.

Dark Crimson, or Spanish Brown.

Straw Coloured Quilled.

Golden Yellow.

Tasselled White.

Superb White.

Semidouble Quilled White.

Paper White.

Quilled Flame Yellow.

Sulphur Yellow.

Superb Clustered Yellow.

Small Yellow.

Single Yellow.

Quilled Pink.

Semidouble Quilled Pink.

Quilled Orange.

Semidouble Quilled Orange.

Early Crimson.

Curled Lilac.

Quilled Light Purple.

Expanded Light Purple.

Quilled Salmon.

The following are entirely new, having been introduced by the author the last year:—

Double Indian Yellow.

Double Indian White.

Brown Purple.
Early Blush.
Golden Lotus.
Quilled Purple.
Starry Purple.
Park's Small Yellow.
Quilled Yellow.
Semidouble Quilled Pale Orange.
Two Coloured Red.
Curled Buff, or Salmon.
Large Lilac.
Late Pale Purple.
Late Quilled Purple.
Tasselled Lilac.
Tasselled Yellow.
Two Coloured Incurved
Yellow Waratah.

All the varieties of the *Chrysanthemum* are of the easiest culture, and will flourish in any common soil uninjured by the rigours of winter; and the plants may be divided in the spring into as many as there are shoots, each of which will take root with ease, and form in its turn a large plant in the following autumn. The neatest plants, however, are obtained by planting the cuttings in June in the common way: these will quickly strike root, become handsome and bushy, and produce abundance of flowers the same season. The advantage of these is, that the plants are low set, and not so tall and straggling as those reared in the usual manner.

Carnations.—In European gardens *Carnations* are generally kept in pots, but in the United States they are commonly planted in the open ground. In the northern states, it is also customary to protect them during the winter season by small boxes, each with a light at the top, or to transplant them in the month of October, and cover them with common hot-bed frames. In removing them, as much earth as possible should be retained to the roots; they should be moderately watered immediately after removal, and occasionally afterwards, until perfectly established. The glasses should not be placed over them until the weather becomes severe, and then they will require to be frequently aired during fine weather. The principal care requisite is to guard them against the effect of wet and dampness. In April the plants

can be again transferred to their respective stations; in doing which it is particularly recommended to use a scoup trowel; by this process each plant may be taken up and transplanted with a ball of earth, and some of the compost mentioned below can be filled in around each plant at the time it is set out, unless the borders have been previously dug and manured, and prepared to receive them; but if it is inconvenient to provide frames for the purpose of winter protection, the Carnations may be covered with any common box that will shelter them from the wet, as they will bear a considerable degree of frost, but not cold and wet at the same time. Attention should, however, be paid to them when the weather is moderate, to take off the boxes in the middle of the day in order to give them air.

When the plants are of sufficient size, some of the strongest shoots should be layered as soon as the flowers are on the decline; and when rooted, in September, the layers may be taken off, observing to keep a little earth to the roots: these can be planted in a piece of ground dug and manured for the purpose, and immediately covered with a glass frame, and shaded from the sun, giving them air morning and evening for a few days, until they are rooted. They may then be left open until the frost commences, when the glasses can be put over as already stated.

The *Compost* recommended in Maddock's Florist's Directory for Carnations is—one half rotten horse-dung one year old, or that which has been used as a hot-bed, one third fresh sound loamy earth, and one sixth of coarse sea or river sand: these ingredients are to be mixed together in autumn, laid in a heap about two feet thick in an open exposure, and turned three or four times during the winter.

DIRECTIONS

FOR THE

Culture of Bulbous and Tuberos Flower Roots.

Situation.—A southern aspect, dry and airy, and sheltered from the north winds, is preferable for most Bulbs, but Anemones and Ranunculuses will do best in a situation combining a southern aspect, and is at the same time sheltered from the intense heat of a noonday sun.

Soil.—One third common sand, one third old well rotted cow-yard manure, and one third good garden mould; let the beds thus formed be well pulverized to the depth of 18 or 20 inches, that the three component parts may be completely mixed together; a fourth part of rotten wood, or decomposed vegetable mould from a wood or swamp, if convenient to be had, may be added with advantage to the above, and will at all times be beneficial in giving additional lightness to the soil; and when thus prepared, the soil need not be removed for five or six years. The beds should be raised from four to six inches above the level of the walks, and moderately arched, which will give an opportunity for all superfluous moisture to run off; some sand strewed in the trenches, both before and after placing the roots, would be of advantage.

Time of Planting.—For Hyacinths, Tulips, Crown Imperials, Lilies, Poleanthus Narcissus, Common Narcissus, Jonquils, Irises, Crocuses, Colchicums, Star of Bethlehem, Winter Aconites, Snowdrops, Snowflakes, Gladiolus, and most other hardy Bulbs, the preferable season for transplanting is the months of August, September, and October; and it would be well here to observe, that the above mentioned Bulbs (Tulips excepted) will thrive best if not taken from the ground oftener than every second or third year.

The different species of Ferraria, Antholyza, Ixia, Crinum, and Hæmanthus, the tender kinds of Amaryllis, Pancratium, and Gladiolus, with most other delicate Bulbs, may be planted during the months of November or December in pots, when intended to be sheltered during winter, or they can be kept in dry sand until the months of March or April, and then be planted in the open ground when it has become free from frost and perfectly settled:

Depths and Distances.—Hyacinths, Martagon, and other Lilies and Pæonies, should be planted at a depth of four inches; Crown Imperials, and Poleanthus Narcissus, six inches; Tulips, Double and Single Narcissus, Jonquils, Colchicums, and Snowflakes, three inches; Bulbous Irises, Crocuses, Arums, Small Fritillaries, Pancratium, Gladiolus, and Snowdrops, two inches; Ranunculuses, Anemones, and Dog's Tooth Violets, one inch; always measuring from the top of the Bulb. The rows should be about ten inches apart, and the roots placed from four to six inches apart in the rows, according to their size.

Protection during Winter.—On the approach of winter, it would be beneficial to cover the beds with tanners' bark, withered leaves, or light rotten earth from the woods, such as is formed by the decay of leaves, to the depth of two or three inches, as it prevents any ill effects, which a very severe season might have on the roots; but it should be carefully raked off again early in the spring.

Taking up Bulbs after Blooming.—The only advantage to be gained by taking up Hyacinths and other Bulbs, (Tulips excepted,) is either to divide the roots when they have become too numerous, or to renew a worn out soil, neither of which can occur oftener than once in three years; with Tulips, however, it is different: for as the fine and delicate tints they possess do not originate with the rearing of the plant, but are the result of art practised in their after cultivation, and as variations of colour thus produced are rather the effect of disease in the plant than of any other cause, it is necessary to continue the course of annually taking up the roots of all the finer varieties, in order to preserve their beauties in perfection. Tulips may be kept from the ground two weeks or more at the option of the owner; but Hyacinths and other roots, it is preferable to plant as soon as they are separated, and a fresh bed prepared according to directions already given.

About a month after the bloom is passed, the foliage puts on a yellow decayed appearance. This is the proper season for taking them up; on doing which, you must cut off the stem and foliage within an inch of the Bulb, leaving the fibrous roots attached to it. After thus preparing them, they must be spread singly in an airy room for two or three weeks to dry, and then each root must be wrapped carefully in paper, or put in dry sand until replanted.

Hyacinths and other Bulbs to Bloom in Pots or Glasses.

For this purpose Single Hyacinths, and such as are designated as earliest among the Double, are to be preferred. Double and Single Jonquils, Poleanthus Narcissus, and Double Narcissus, also make a fine appearance during the winter season.

Bulbs intended for blooming in pots during the winter should be planted in the months of October and November, and be left exposed to the open air until it begins to freeze, and then be placed in the Green-house, or in a warm room. They will need moderate occasional waterings, and should be exposed as much as possible to the sun and light, to prevent the leaves from growing too long, or becoming yellow.

Those intended for glasses should be placed in them about the middle of November, the glasses being previously filled with pure water, so that the bottom of the Bulb may touch the water, then place them for the first ten days in a dark room, to promote the shooting of the roots, after which expose them to the light and sun as much as possible; the water should be changed as often as it becomes impure, and care be taken not to suffer it to freeze.

Anemone and Ranunculus.—Much error is fallen into with regard to the culture of these plants, which, by apparently rendering difficult what is perfectly easy, deprives many of the gratification which these delightful flowers would afford them. The soil should be compact and rich, not light and sandy. A stiff loamy soil suits them very well, with which should be mixed one fourth rotten manure; in doing this the earth should be well stirred. In England they are planted about the 10th of February, and here they may be planted as near that time as possible; but I have had them succeed well when planted at the end of October, and protected during the winter with a covering of leaves, which should be removed early in the spring. As soon as our severest frosts are past, they will bear a considerable degree of cold, but heavy rains injure and rot them, they should not therefore be put in ground that retains water. As soon as the foliage begins to fade, they must be taken up and dried in an airy room, and then packed in dry sand till planted.

Lilium japonicum, or Japan Lily.—This has been considered by many when in perfection to be the most splendid of all lilies. It often rises to the height of five feet, with

several stems to each root, and generally two flowers on each stem, which are perfectly white and very large, with a tube at the base of the flower, which gives it an elongated form: It is perfectly hardy, and thrives most in a soil of half bog earth and half strong loam. The roots should be placed about three inches deep.

REMARKS.

Tulip—Tulipa gesneriana.—In no class of plants has nature so varied her delicate tints as in this; it would seem as if each change which nature or art is capable of forming, was included in the varying beauties of the Tulip, above 1,100 varieties of which are cultivated in some of the gardens of Holland. All the finer varieties, however, of this delightful flower, have been obtained by cultivation and art during the last two centuries, through the perseverance of the Dutch, French, and Flemish florists; several kinds of which possess a delightful fragrance, although persons who are ignorant of this circumstance have made the want of it an objection to this splendid flower. About the middle of the 17th century, the rage for the Tulip was so great in Holland, that from four to twenty-five thousand florins were given for a single root. The Tulip called *Semper Augustus* was sold for ten thousand florins, (§ 4,000,) and the one called *Viceroi*, for twenty-five thousand florins, (§ 10,000.) This extraordinary traffic was, however, soon checked by the interference of the Legislature, who enacted, that no Tulip, or other flower, should be in future sold for a sum exceeding fifty guineas; and so effectual has been this law, that at present the highest price of any Tulip in that country is only one hundred and fifty florins, (§ 60,) and the highest priced Lily about the same sum. Tulips are divided into early and late *Blowers*; the former begin blooming about the 15th of April, and are followed by the latter kinds in succession until the end of May; the late kinds produce the largest flowers, the stems of which are generally from 20 to 30 inches in height.

Hyacinths—Hyacinthus orientalis.—This favourite flower which, with its great beauty, combines also the most exquisite fragrance, has been cultivated in Holland to an equal extent with the Tulip, and 1,300 varieties are found in the gardens of that country. The first Double Hyacinth known in Holland was raised from seed about the end of the 17th cen-

tury, by Peter Voorhelm, from which all the fine double varieties we now possess may be traced. So great was the value of a fine Double Hyacinth formerly in Holland, that from two to ten thousand florins were given for a single root; and Mr. Dutens mentions, that in his travels in that country in 1771, he saw ten thousand florins (§ 4,000) refused for a single Bulb. So extensive has their cultivation, however, now become, that many acres are occupied by individuals solely for that purpose, and many hundred thousand roots are annually exported to other countries; and the prices have been so reduced, that no Hyacinths are sold at more than one hundred florins each, and few higher than from two to five guineas, and by far the greater number at much less rates. Single Hyacinths are held in less estimation than double ones; their colours, however, are more vivid, and their bells, though smaller, are more numerous: they are preferable for flowering in winter to most of the double ones, as they bloom two or three weeks earlier.

It has been supposed by many that Hyacinths, Tulips, and other Bulbous Flowers, are difficult of culture, and that our country being unfavourable to their growth, they would dwindle and decline after a few years cultivation. This is altogether a mistaken impression; and if it ever occurs, must be owing to improper treatment, as no country in the world possesses a climate more congenial to the culture of Bulbous Flowers than the middle states; for the disadvantages of great fogs and a humid atmosphere, which are so much complained of by the Dutch as appertaining to their climate, do not exist in ours. The great ascendancy which Holland has ever held in the culture of Bulbous Flowers is the result of its soil, which is of peculiar formation, being a combination of marine sand made fresh by cultivation and bog mould; the proper means, therefore, to succeed equally in their culture, is to form a soil as near as possible of the same component parts, which is by no means a difficult task. And, in fact, after all that has been said and written on the particular cultivation of Bulbous Roots, we often see the finest flowers in gardens where little or no attention is paid to them; and perhaps there is no class of plants which affords us so many delights, and so richly repays us for each little care bestowed on them.

The collections of Bulbous Flowers have been so greatly extended within these several years past, by a careful and scrutinizing selection of the most exquisite flowers of every

country at all celebrated in their cultivation, that although some few collections in Europe may exceed the author's in the number of varieties, still it is believed few or none surpass it in the selection of the most choice and intrinsic flowers; and prices have been paid in many cases altogether unwarranted by the demand this country has yet afforded, but with the expectation that the increasing botanic taste evinced throughout our country, would also in time devote to this class of plants the attention which it merits. It may be well to remark, that the Bulbs which are frequently sent out on consignment to this country from Holland, and sold at our auctions, are the mere refuse, and such as are held in no esteem either by amateurs or connoisseurs, and no idea can be formed by them of the beauty of the more estimable kinds; and it is to be regretted that our citizens should have been so often duped in their purchases of these roots, under the imposition of high sounding names.

GREEN-HOUSE TREES, SHRUBS, AND PLANTS.

Among the plants which have hitherto been introduced to this country, none exceed those which have been received from China and Japan; in the former of which countries they are said to excel all other nations in the cultivation of flowers. It is also a happy circumstance, that nearly all the plants which have yet been received from either of those countries, are among the hardier kinds of Green-house plants, and succeed with very little attention; and indeed a number of them are found to withstand the winters of the middle states. It being therefore so desirable an object to obtain all the valuable plants of those countries, arrangements have been made, by which that part of the author's collection has been greatly augmented, and it is at present in this respect very complete. I will now commence by giving descriptions of some fruits cultivated here in Green-houses, but which it is expected may in time become perfectly na-

turalized to the United States, and a few of which are already becoming so in some sections of the Union.

Olive, or Olca europea.—This tree, whose cultivation seems now advancing in Florida, may be considered as calculated to impart immense riches to that portion of our country which may be found congenial to its culture. But perhaps it is not generally known, that in France and Italy they enumerate no less than 17 different varieties of the cultivated Olive, all of which are esteemed for possessing to a greater or less degree the different properties for which this tree is valued. Some varieties are said to produce oil in greater quantity, others that of a more delicate quality, while others are deemed more suitable for preserves, &c. The whole number of these varieties has been introduced to this country by the author, and are now under culture at his establishment, and will be found enumerated in his Green-house catalogue. In England the Olive produces fruit plentifully in a common Green-house.

The Olive—Emblem of Peace.—“In old Rome, every new married couple were crowned with garlands of the Olive, to represent that quiet and peace which attend, or rather which ought to attend, the hymeneal union. The victor at the Olympic Games was honoured with an Olive crown. Noah's dove is represented with an Olive branch in its beak, as bringing the promise of peace to a desolated world. The bird of the American banner has its branch in one talon, and arrows in the other, as if offering either peace or war to the nations of the earth. The Olive was consecrated to Pallas, and was the favourite tree of the virgin goddess. When the god of the trident quarrelled with her for the honour of giving name to the city of Athens, their peers resolved, that the one who should give the most useful present to mankind should name the city. Neptune dashed his trident on the sea-shore, and instantly the war-horse arose with flashing eyes and streaming mane; Minerva touched the earth with her spear, and the gentle Olive raised its mild head above the earth—the goddess was triumphant.”

Pomegranate.—This tree has produced fruit in England against a south wall, and also at Long-Island by being protected during winter. It is far from being tender, and may without doubt be acclimated to the country south of the Potomac. It does not seem to be generally known that there are several very superior varieties of this fruit, such as the Large Malta, the Sweet Fruited, the White Fruited, &c. &

besides which there are a number of varieties that are particularly beautiful as ornamental flowering plants, such as the Double Crimson, the Monstrous Double Crimson, the Double White, the Yellow Flowering, the Dwarf Flowering, &c. General Forman, of Maryland, informs me, that the Pomegranate flourishes with him without the least protection.

Euphoria Long Yen.—Among the fruits enumerated in the publications of the South-Carolina Agricultural Society as worthy of introduction into the southern parts of our Union, I find the above particularly noticed. This tree is one among the number of valuable additions which have been made to our collections from the gardens of China, and it has already perfected its fruit at the seat of John Knight, Esq. of Lee Castle, England, which was found to be of an excellent quality. In this section of the Union it requires the protection of a Green-house; we therefore cannot expect to receive the full benefit of it as an addition to our vocabulary of fruits, but the southern states will no doubt be found congenial to its full development, where, at no distant period, it will probably form one of the appendages of the dessert. The *Euphoria litchi*, another species of the same genus, is said to be still more interesting, and I find this also mentioned by the South-Carolina Agricultural Society. These plants are sometimes ranged under the genus *Dimocarpus*.

Zizyphus sinensis, or Chinese Date.—This tree is extensively cultivated in China, and the fruit is much esteemed. The varieties of this fruit in that country are said to be almost as numerous as those of the Plum in Europe. It has latterly been introduced into cultivation in the gardens of Europe, to which it promises to be a great acquisition. Both this and the two following would suit the climate of the southern states.

Zizyphus vulgaris, or Common Jujuba.—This fruit is well known in the south of Europe, and is generally called the European Jujuba. Its fruit is excellent for preserves, under which form it is sold in the shops of Paris, London, and other cities of Europe.

Zizyphus lotus, or Lote Tree.—This produces a drupe of very pleasant flavour, and in North Africa is said to be an article of much importance to the natives, a particular tribe of whom anciently derived their name from living upon the Lote.

Eriobotrya japonica.—This tree, whose foliage is very attractive, was formerly called *Mespilus japonica*. The Horticultural Society of London remarks, that “of all the tropical fruits, it is probable this will be the soonest brought into use in England.” The plants are pretty hardy, and with a little protection will bear the severest winters of that country against a south wall. In the south of France and at Malta it has already become a garden fruit. It is well calculated to succeed in the southern states, and has been mentioned by the Agricultural Society of South-Carolina in their *Desiderata*. It requires only the simplest attention in its culture, and will no doubt ere long be naturalized even to the middle states.

Eugenia, or Rose Apple.—This is also a tropical fruit, which has matured its fruit in England, but not without the aid of a house for the purpose. There are several species. The *Eugenia jambos*, or Yellow Rose Apple, produces very pleasant fruit, and bears abundantly in England in a cool conservatory. The *Eugenia malaccensis* is said to produce the finest fruit. These fruits would be sure to succeed in Florida, and no doubt could also be acclimated to Louisiana, Georgia, &c.

Cherimoyer, or Anona cherimolia.—This fruit is in very high esteem in several parts of South-America, and is said to possess qualities of the highest character. It is deciduous, and thrives and produces fruit in the south of Spain, where it has become acclimated. It is supposed that it may be made to flourish in England against a wall. Under these circumstances it should be introduced into our southern states, and gradually naturalized to those further north. The fruit resembles a middle sized apple, filled with a sweet soft pulp. Of the *Anona* there are several other species producing eatable fruits, such as the Sour Sop, Sweet Sop, Rinyon, &c.

Mango, or Mangifera indica.—This is another fruit held in high esteem in warm climates, and which at no distant period will be naturalized to the southern regions of our country. The fruit has occasionally found its way to the New-York markets.

Pistachia.—This tree succeeds in England when planted against a south wall. In the south of France it has become completely naturalized. At Long-Island they have supported the severest winters protected only by a common frame, from which circumstance I am inclined to suppose

it would succeed any where south of the Potowmac. The fruit is held in esteem, and the tree being dioecious, it will be necessary to possess both sexes.

Stone Pine.—The fruit of this tree is in high esteem in Italy, and has occasionally found its way to the New-York markets. Their taste is similar to the Almond, though more delicious. In England the fruit is seldom brought to perfection, on account of the want of sufficient sun, but in this country there exists no difficulty of that kind.

Ceratonia, or Carob Tree.—The pods of this tree contain a pleasant eatable substance, for which it is extensively cultivated in the south of Europe, and it is supposed to be the fruit of this tree which supported St. John in the wilderness, whence its common appellation of "St. John's Bread." It would suit the climate of the southern states.

Psidium, or Guava.—The Purple Guava, or *Psidium cattleianum*, has been cultivated with success in the Green-houses of England, and would no doubt succeed in the southern regions of our country without any protection. This is considered as possessing the highest merit. The Chinese Guava, and the Red Apple Fruited Guava, are also valued for their fruits. The *Psidium pyriferum*, or White Pear Shaped Guava of India, which is naturally far more tender, has been naturalized to that part of France on the Mediterranean, and will doubtless ere long, as well as its congeners, be acclimated to South-Carolina and Georgia. The Guavas may be raised by seeds, cuttings, or grafting.

Passiflora, or Passion Flower.—Of this genus there are a number of species producing fruits of great excellence, viz. *Passiflora quadrangularis*, or West-India Granadilla; *P. maliformis*, or Sweet Calabash; *P. laurifolia*, or Water Lemon; *P. edulis*, or Purple Fruited; and *P. ligularis*, or Mexican Granadilla. Of these the two first are now cultivated as dessert fruits in England; the third is from Brazil, and is very productive; the fourth is very plenty in the West India and Bahama Islands; and the fifth is common in the vicinity of the city of Mexico. There are doubtless other species which produce fine fruits. There exists no good reason why these would not flourish in the more southern parts of our Union; and indeed one of our native species, the *Passiflora incarnata*, produces fruit in a wild state as far north as the Potowmac, which, although inferior, is eaten by children, and known by the name of Pocock, or May Apple. In South America the fruit of the *Passiflora* is called Purchas.

The entire collection of this plant now in possession of the author exceeds 60 species. The general characters of the flower, which are well known, and considered as emblematic of the Passion, or Crucifixion of our Saviour, prevail in all the species. The leaves vary to every form in the different kinds, and many of them are most singular: the flowers are also of every colour. Among the most admired are the Common Blue, the Purple, the different shades of Red and Scarlet, the Blue and Scarlet, the Orange, the Rose Coloured, the Yellow, the Cluster Flowered, the Laurel Leaved, &c. Taking the whole collection together, they form as curious a combination as it is possible to conceive in one class of plants, and the flowers are of every size, from one to five inches in diameter. They are all vines, and can be trained on stakes or small lattices attached to the pots, or up the pillars and rafters of the Green-house, and many of them can be kept in a common cellar, or in any room free from frost in winter, and be used during the summer season to train over the piazza, or to ornament bowers, arbours, &c.

Scirpus tuberosus, and Trapa natans.—These plants have been enumerated in the list of Desiderata by the Agricultural Society of South-Carolina, as worthy of introduction and culture as articles of food. The Trapa natans, or Eatable Water Chestnut, has already been cultivated with success in England. The following description is from the London Horticultural Society's Catalogue:—"This is an aquatic floating plant, producing a singular kind of nut with four horns, which is esteemed in the south of Europe, where it is a native. The kernel resembles a chestnut in flavour, and is eaten either raw, broiled, or roasted." In England it requires artificial heat to bring it to perfection; but I have little doubt that, on account of the intensity of our sun, it could be made to flourish in our ponds even as far north as New-York, by its being planted at a depth below the action of freezing, especially as the *Nelumbium luteum* has been found flourishing in the ponds of Connecticut.

Green and Bohea Tea.—These are very hardy Green-house plants, and would no doubt withstand the winters of any part of the Union south of Wilmington, North-Carolina. The leaves of the Green Tea are more than double the size of the Bohea, and both produce fine flowers in abundance during the autumn and winter, and are cultivated with as much ease as any of our most common trees. It is said that all the finer teas are perfumed by the Chinese with the de-

lightful flowers of the *Olea fragrans*, or Fragrant Chinese Olive, and the *Aglaia odorata*.

Orange and Lemon Trees, &c.—The Orange, Lemon, Citron, Shaddock, and Lime, are easily cultivated, and no trees will bear hardier usage if they are only secured from cold and frost. They may be removed every month in the year, and yet grow well with the aid of shade and moisture. Early in October they should be taken out of the boxes or pots in which they are growing, with the balls of earth entire, and should then have the sides and bottom shaved off about an inch deep with a sharp knife, to make room for fresh earth; after which they can be replaced in the pots or boxes, first covering the holes at the bottom with shells or broken earth, and some fresh compost; then fill in around the tree with the compost prepared as hereafter directed. If, in the course of replanting, the earth should have been much separated from the roots, the tree should be placed in a shady situation for a few days. If it is desirable to promote the growth, and to form large trees, then let boxes be made a size larger at every annual transplanting; but if the boxes should be too large in proportion to the tree, fruit will not be produced so soon, nor in as great a quantity.

Compost suitable for Orange Trees, and many other Green-house Plants.—Take one third good rich earth, one third well rotted stable manure, and one third swamp or wood mould; but where swamp mould cannot be procured, let two thirds be good rich earth: these must be well incorporated together, and if mixed a few weeks previous to the time of using, it will be the better for it.

The Orange Tree—Emblem of Genius.—“This is the prince of trees. It bears at the same time blossoms and fruit. Its leaves are ever green, and as it increases in age and size, it increases in beauty and fruitfulness. Its flowers load the air with the richest perfume, and its fruit is one of the most delicious and exquisite on earth. This superiority over all other trees, and these inestimable qualities, render it a happy emblem of genius, that magnificent and splendid boon of nature, which, like this tree, is ever green, and which grows more and more beautiful beneath the hand of time. Thus genius surpasses every other attribute of mind, and is continually producing new blossoms while it is loaded with mature fruit.

“The Orange tree has also been considered typical of the passion of love, because although its fruit be golden, its

odours exquisite, and its taste delicious, its rind is bitter. Perhaps none can understand the emblem, except those who are so lucky or unlucky (as the case may be) as to be caught in the gossamer web of the capricious little god. When the young bride of Provence plights her faith and her affections before the sacred altar, her waist and her brow are entwined with a chaplet of Orange flowers, which is called the 'Chapeau de la Mariée.'"

Camellia japonica, or *Japan Rose*.—Much as we are indebted to Japan and China for elegant plants, still we are more peculiarly so for the different species and varieties of the *Camellia*, which, for the many beauties it concentrates, may emphatically be called the "Queen of Flowers." The different varieties of this plant form the most brilliant display of the Green-house from December to May, and the splendour of their flowers, and richness of their foliage, are surpassed by no others. The flowers of many of them equal in size the largest garden rose, and combine a regularity of form and richness of colouring, which present an admirable contrast with their dark shining green leaves, and render them the greatest ornaments of a room or the Green-house. They need less protection than almost any other Green-house plants, and four of them which were left in the open ground during several winters, and which were protected merely by a common frame, received no injury, although the ground in the frame was frozen to the depth of five inches. In England several of the varieties are now cultivated in unprotected shrubberies, and it is there anticipated to naturalize all the others, so as to form a permanent appendage to the hardy shrubbery. No plants have ever yet been introduced to the gardens of Europe or America which have received so much admiration, and been so much sought after, as the varieties of the *Camellia*; and in common with other amateurs, the utmost pains has been taken by the author to obtain all the splendid new ones, and his collection now includes above 50 varieties, with a prospect of additional extension. The following are among the most beautiful and rare; the others will be found enumerated at pages 91 and 92 of the catalogue of the author's establishment.

Camellia chandleri, or *Chandler's Superb Striped Waratah*.—This produces flowers finely variegated, and others nearly scarlet, of an Anemone form, on the same plant. It is considered by the gentleman after whom it is named as the most superb in his collection. The following is the de-

scription given in his publication :—"The colour is a vivid scarlet, almost as bright as the Nasturtium, broken with occasional splashes of the purest white, which vary very much in their relative proportions;" so that one flower will have copious touches of white, while another will be almost wholly scarlet. The long duration of the flower is highly gratifying, the bloom of one having remained in full beauty for six weeks; the foliage is of the darkest glossy green, and independent of the beauty of the flowers, forms an attractive evergreen.

Camellia althæiflora, or *Hollyhock Flowered*.—"The flowers of this plant are surprisingly large," and with the exception of the preceding one, Messrs. Chandler and Buckingham state they have seen nothing to compete with it—the colour is a fine crimson, approaching to a scarlet.

Camellia florida, or *Cluster Flowering*.—"The colour of this is intermediate between the Warratah and the Red Pæony Flowered Camellias, from a union of which this was produced. The foliage has however the character of the former, but the buds have this advantage, that the calyx which covers them has not that dark appearance resembling decay which is a regular attendant on the Warratah.

Camellia corallina, or *Coral Coloured*.—"This variety has been also greatly admired. It blooms profusely, and its title is sufficiently indicative of the colour of its flowers.

Camellia insignis, or *Splendid Flowered*.—"This is of the form of the Red Warratah, or Anemone Flowered. The outer petals are bright red, and the small centre ones are intermingled with white, which gives to the flower a Carnation-like appearance, and in connexion with its fine colour renders it greatly admired.

Camellia anemoneflora alba, or *White Warratah*.—"The foliage of this nearly resembles the Striped; the flower bud previous to expansion is quite round, and presents an appearance of great promise, which the blossom fully realizes;" the outer leaves are a transparent white, and the centre is of an Anemone shape, thus forming a White Warratah Camellia, which it had been considered quite a desideratum to obtain.

Camellia rosa sinensis, or *China Rose Flowering*.—"This is a fine double flower of a deep red, with dark green foliage, and a complete absence of anthers. From its resemblance to the China Rose it has received its title.

Camellia Aitonia, or *Aiton's Large Single Red*.—"The

flower of this is of great size, and the delicate pencilling of the petals, together with the singular boldness of the anthers, render it a beautiful specimen of a single flower; and its tendency to produce seed far exceeds any other *Camellia* I am acquainted with.

Camellia fulgens, or *Fulgent Flowered*.

Camellia woodii, or *Wood's Superb*.

Camellia warratah-rosea, or *Rose Coloured Warratah*.—

This has light red Anemone shaped flowers.

Camellia coccinea, or *Double Scarlet*.—This has exceedingly fine foliage, which resembles that of the Striped. It produces flowers wholly scarlet, and others very finely variegated, on the same plant.

Camellia conchiflora, or *Shell Flowered*.—This has flowers which greatly resemble the preceding, and it also produces in like manner plain red and variegated ones on the same plant. It is, however, distinguished by its foliage, which somewhat resembles that of the Common Single Red.

Camellia sasanqua-rosea, or *Double Rose Coloured Sasanqua*.—This has exceedingly beautiful blush coloured flowers, which are full double, and about the size of a dollar; it blooms with great profusion, and is one of those most highly admired; the leaves are small, and it forms a handsome compact plant of moderate size.

Camellia fimbriata, or *Double Fringed White*.—The flowers of this are about the size of the Common White, and they are beautifully fringed on the edges, which causes it to form a striking contrast to all the other varieties. It differs also in the period of its flowering, which is in September and October.

Camellia axillaris, or *Axillary Flowered*.—This has larger leaves than any of the others, which are very showy and indented on the edges; the flowers are also produced differently from the others, and come out at the axils of the leaves.

Camellia oleifera, or *Oil Bearing*.—This has small foliage and delicate single white flowers.

Camellia Grevillii, or *Greville's Red*.—This is of a much more brilliant colour than the Common Red, and approaches a scarlet.

Camellia alba-simplix, or *Single White*.—This has large flowers of a very pleasant fragrance and fine appearance.

Camellia myrsinifolia, or *Myrtle Leaved*.—This has small foliage, and fine double rose coloured flowers, the petals of which are reflexed. It has a pleasant fragrance.

Camellia mutabilis, or *Changeable*.—This is also called Pomponne and Kew Blush; the flowers are often pure white, and others more or less touched with red, being quite variable in this respect.

Camellia flavescens, or *Buff*.—This is also called Maiden's Blush and Hume's Blush, with flowers of great regularity of form and beautiful appearance, which have a yellowish tint, and are of a pearl or cream colour.

Camellia Welbankianta, or *White Pæony Flowered*.—This variety is yet very rare.

Camellia rubricaulis, or *Lady Campbell's*.—This has double red flowers mottled with white.

Camellia hexangularis, *Starry*, or *Six Angled*.—This is so called from the peculiar arrangement of its petals.

Camellia carnea, or *Middlemist*.—This has very fine rose coloured flowers, which are produced in great profusion.

Camellia longifolia, or *Long Leaved*.—This has very long leaves and single red flowers.

Camellia sasangua-alba, or *Lady Banks' White Sasangua*.—This has small white semidouble flowers about the size of a half dollar, which expand in December, and greatly resemble those of the Tea.

Camellia maculata, or *Blotched Leaved*.—This has leaves blotched or spotted with white, and double white flowers.

Camellia pæoniflora, or *Pæony Flowered*.—This has very large rose coloured flowers, formed by a row of large petals outside, filled up with smaller ones, which project in the centre, resembling a pæony.

Camellia anemoniflora—*Purple Anemone Flowered*, or *Warratah*.—This is of a deep crimson or purplish colour, with a row of large outer petals, and the centre formed of very small ones, resembling the shape of a fine double Anemone.

Camellia atrorubens, or *Double Crimson*.—This has flowers of a very dark red or crimson colour, strikingly different in their formation from the other kinds, and it is remarkable for the great abundance of its flowers; the foliage is also very fine, being of a shining green.

In addition to those here described there are numerous other very fine varieties, among which are the Common Double White, Double Red, Double Striped, Single Red, Semidouble Red, &c. which being so universally known, need no description. I will now proceed to comment upon the proper treatment they should receive. For several of the descriptions of the new kinds I am indebted to the work of

Messrs. Chandler and Buckingham, of London, entitled "Camellia Britannica," and from that publication I have also extracted the following remarks relative to the culture of this fine class of plants, which are deemed highly appropriate.

"The soil best adapted to the growth of Camellias is a mixture of peat or bog earth and loam, in nearly equal proportions: where the loam is peculiarly light, a less quantity of peat is requisite. The earth should be well mixed and passed through a coarse sieve, reserving the detached portions of peat and loam that will not pass the sieve to fill the bottom of the pots, thereby securing a free drainage, a circumstance indispensable to the success of the plants. They require plentiful watering at the respective periods of growth and flowering; during the latter, if not regularly supplied, the bloom buds will infallibly fall off instead of expanding into flower; at other times a regular moderate supply is essential, and the plants will improve in appearance by occasionally sprinkling the foliage. The time for fresh potting is generally when the spring growth has hardened; and the dormant blossoms for next season may then be detected in the rounded form of the leading buds, which afterwards usually split into a growing and a blooming bud. After potting the plants may be placed in the open air, or retained in the Green-house, according to the season in which they are wanted to flower. When families spend the winter in the city, it is desirable to have them bloom a little before Christmas, and if the house is kept up to the warmth of a regular hot-house in February and March, the spring growth will be anticipated two months, and an early, almost an autumnal bloom, will be the consequence. With this treatment the regular watering is the only material circumstance, and when the bloom buds are formed, as much air as can be well admitted should be given them.

"The effect of constant watering may be fairly presumed to diminish or destroy the vegetative property of the small quantity of earth allotted to each plant; therefore, when the annual repotting occurs, to carefully take away as much of the former ball of earth as can be done without cutting or injuring the roots, and adding fresh, cannot but be beneficial. In common with all other shrubs, the leaves assume a darker green when kept in the shade, and when fresh potted, if the roots have been much disturbed, for a limited period that situation is desirable. In winter protection from severe

frost is also needed; the Camellia and Myrtle being nearly equally hardy. The most usual mode of propagation is by cuttings taken in July and August from the Single Camellia, which are found to strike root more readily than the double varieties; they are planted in pots half filled with the Camellia compost described, and the upper half with fine white sand. The pots are plunged in a tan-bed, which exhales a gentle warmth, and closely shaded for three or four months, by which time short fibry roots, or a cicatrice, from which they afterwards diverge, are mostly produced. When sufficiently rooted to bear removal, they are potted singly in small pots, the sand being then carefully removed, for although efficient in the first instance in the production of fibres, its continuance is injurious; in fact, they will not long survive if wholly in sand. When the young plants have attained the size of a flowering branch of a double variety, which they generally do in three years, they are inarched, a mode of grafting which differs from the common practice, in the scion remaining on its parent stem till united to the plant to which it is attached."

Pæonia moutan, or *Tree Pæony*.—In the gardens of China they cultivate an immense number of varieties of this splendid plant, some of which are said to be sold as high as a hundred ounces of gold; and in so much esteem is it held by them, that it is there called the "King of Flowers." If kept in pots in the house, the flowers are produced in March and April; but I find it supports the winters of Long-Island without any protection, and even further north they could be planted in the open ground, where a common frame would be quite sufficient to protect them. Three varieties have flowered in the garden of the author, of which short descriptions will be given.

Pæonia moutan banksii, or *Chinese Purple Sweet Tree Pæony*.—This is of a light purple or lilac colour, intermingled with some paler shades; the tints of the flower are peculiarly delicate, and it has the mild and agreeable fragrance of the rose; the flowers are about 18 or 20 inches in circumference, and form what is so rarely met with, a combination of splendour, delicacy, and fragrance: they are distinguished by their often projecting very much in the centre. Several plants are in my garden which produce from 40 to 50 flowers annually, and they are planted out, as all the other varieties are, in the open ground without protection, where they have been growing eleven years.

Paeonia papaveracea, or *Chinese White and Purple Tree Paeony*.—The flowers of this plant are single or semidouble, but being of a pure white colour, with a purple centre, they combine a delicacy calculated to excite great admiration; it is also far more rare than the previous one, and it is but a couple of years since the author paid five guineas for a very small plant. It perfects its seeds freely, and can also be increased by divisions of the root.

Paeonia moutan-rosea, or *Chinese Rose Coloured Tree Paeony*.—This may truly be said to be the most splendid of the three, and is even more rare than either of the foregoing; but plants are often called by this name which are of the kind first described. The colour of this flower is exactly that of the Moss Rose when half expanded; in fact, it is the most perfect rose colour, and the flower spreading out to a size far surpassing either of the foregoing, presents a degree of magnificence which has by many amateurs been declared unrivalled. The flowers measure from 20 to 25 inches in circumference, and of one which exceeded the latter size a drawing has been taken, which is in the possession of the author, who received this plant direct from Canton.

A good garden loam seems to suit these plants, or the same compost may be used as prescribed for Orange trees. They may be all increased by seeds or by parting the roots, but a blooming plant cannot be produced from seed in less than six years.

Chinese Magnolias.—Of these there are six species, all highly interesting; two have been found to support the winters of Long-Island unprotected, and others will no doubt be acclimated in time.

Magnolia obovata, or *Chinese Purple Flowering Magnolia*.—This is esteemed for the uncommon richness and beauty of its flowers, which, in the house, are produced in March. They are bell shaped, of a delicate violet purple outside, and white within, from which circumstance it is sometimes called the Two Coloured Magnolia. It supports our winters unprotected in the vicinity of New-York, and perhaps may do so further north.

Magnolia conspicua—*Chandelier Magnolia*, or *Yulan*.—This has very large flowers of a pure white colour, very splendid in appearance, and shaped like a chandelier. In the house it flowers in March, but will support our winters unprotected. A tree is mentioned by the London Horticultural Society as growing at the seat of Sir Abraham Hume, in England,

which is 14 feet high, 15½ feet broad, and which produced 956 flowers in one season.

Magnolia gracilis, or *Delicate Branched Magnolia*.—This is far more rare than any of the other Chinese Magnolias, being but latterly introduced to this country. With its flowers I am unacquainted, it not having yet produced any with me, though the plants promise to do so the ensuing season. It is sometimes called *M. Kobus*, or *tomentosa*.

Magnolia fuscata, or *Olive Coloured Magnolia*.—This is an evergreen, with fine glossy foliage, and produces small brownish or olive coloured flowers of extreme fragrance. It does not form so large a plant as the three preceding, but becomes a compact and beautiful bush of moderate size, and is closely clad with its shining leaves. It produces its flowers during summer.

Magnolia annonafolia, or *Smallest Flowered Magnolia*.—The leaves of this much resemble the preceding, but are more long and narrow; the flowers are olive coloured, exceedingly fragrant, but smaller than those of any other species. It is perpetually verdant, and its leaves have a fine glossy appearance.

Magnolia humila, or *Chinese Dwarf Magnolia*.—This is the most diminutive in size of all the species. A plant in a number of years will not attain to more than 15 or 18 inches in height, but will regularly produce its flowers, however small: these are of good size, pure white, and extremely sweet.

Hibiscus rosa-sinensis, or *Chinese Rose Hibiscus*.—There are few plants which produce flowers of more magnificent appearance than the varieties of this species. Of these there are five double ones, which are of the following colours:—Crimson, rose coloured, variegated crimson and white, buff, or orange, and yellow. There are also some single varieties. The flowers are produced for many months during summer and until late in the autumn. The foliage is of a shining green and very luxuriant appearance.

Hibiscus mutabilis, or *Chinese Changeable Hibiscus*.—This flowers in November and December; they are the size of a large garden rose, and their peculiarity consists in their changing from white to blush colour and then to purple, thereby presenting to view flowers of three different colours on the same plant. There are two varieties with single and double flowers.

Datura arborea, or *Great Peruvian Datura*.—This plant,

which is of vigorous growth, produces very splendid flowers during the months of October and November; they are pure white, of a pentangular form, with angular extensions, possess an agreeable fragrance, and are generally near a foot in length.

Gardenia.—Of this there are a number of species, many of which produce flowers of great beauty and fragrance. I will proceed to enumerate some of the most conspicuous.

Gardenia florida, or *Cape Jasmine*.—This is the best known; the foliage is very beautiful, and it produces white flowers of a delightful fragrance. There are three varieties, viz. the common one, with large double flowers and broad leaves, another with smaller flowers and narrow leaves, and a third with single flowers.

Gardenia radicans, or *Dwarf Trailing*.—This seldom rises above one foot or 18 inches in height, but spreads near the ground, and produces a great abundance of flowers, which are rather smaller than those already described, pure white, delicate, and of equally fine fragrance; the foliage is also smaller, but much similar in form and appearance.

Gardenia campanulata.—This is a native of the East Indies; the flowers are of a campanulate or bell shape; the foliage is similar to the preceding.

Gardenia micrantha.—This is from China; the flowers are quite small, and the foliage of a fine green.

Gardenia lucida.—The foliage of this surpasses all others by its luxuriant appearance; the leaves are large, broad, and very glossy. It is from the East Indies, and is of recent introduction both to the gardens of Europe and America.

Gardenia rotundifolia.—The leaves of this are nearly round, and the flowers quite pretty. It is a native of Peru.

Gardenia longiflora.—This is from the East Indies; the flowers are of an elongated form and peculiar structure.

Note. The whole number now cultivated in the Green-houses of the author exceeds twenty species, many of which are very singular both as respects their foliage and flowers, and they are among the plants most prized in the rarest collections of Europe.

Amaryllis.—The species of this plant are very numerous, and descriptions of but a few can here be given.

Amaryllis formosissima, or *Jacoba Lily*.—The flowers of this are of a fine scarlet colour, with two ascending and two drooping petals; the other two spread laterally one on each side. The roots can be planted about the first of May

in the open ground, and be taken up in October. It needs very little care, and regularly produces its splendid flowers in July, never failing to gratify you in this respect.

Amaryllis vittata, or *Riband Lily*.—This is one of the most beautiful species; the petals are crimson, striped with white, and a number of flowers are produced on each stalk. Roots of mature size flower very regularly about the months of June or in July.

Amaryllis johnsoni, or *Splendid Striped Lily*.—This is deemed one of the most magnificent species; the flowers are somewhat similar to the last, being crimson, striped with white; but are still more beautiful, and produced in greater abundance, as this frequently blooms twice in a year.

Amaryllis purpurea.—This lily should have received a different specific title, as it is not purple, but scarlet or flame colour; the flowers are very beautiful, generally several on a stalk. It blooms very freely, increases fast from the root, and flowers at various seasons, according to circumstances.

Amaryllis aurea, or *Chinese Golden Lily*.—This produces most brilliant yellow flowers in autumn or winter, and is considered one of the most valuable varieties.

Amaryllis undulata, or *Waved Lily*.—The flowers of this are produced in great numbers on each stalk: they are of a delicate pink colour, and very curiously curled in form. It blooms most profusely in September and October, and increases fast.

Amaryllis atamasco, or *Changeable Lily*.—This blooms in August; the flowers are of good size, and when first expanded are white, but afterwards change to red or purple.

Amaryllis sarniensis, or *Guernsey Lily*.—This is celebrated as one of the most splendid, and is originally from Japan; the flower-stalk is usually a foot high, terminated by an umbel of eight or ten magnificent flowers of a cherry colour. It does not bloom regularly, as the root seems to exhaust itself in flowering, and requires one or two years to regain its vigour. It flowers in September or October.

Amaryllis belladonna.—The flower-stalks of this are generally 18 inches or more in height, and the flowers are produced the beginning of autumn: they are sweet, and of a fine rose colour, mingled with white.

Amaryllis regina, or *Mexican Lily*.—This usually blooms from October to April, and produces from three to four fine crimson flowers on each stalk.

Amaryllis longifolia, or *Long Leaved Cape Lily*.—This

is a very large bulb, with a long neck, and although a native of the Cape will, if planted at a foot deep, withstand our winters, and succeeds admirably if planted in a pond or water course. It produces abundance of flowers of pleasant fragrance in June or July on very tall stalks. It will doubtless ere long become very common in our gardens, as it yields abundance of seeds. There are two varieties, the Pale Rose coloured and the White.

Amaryllis gigantea, or *Gigantic Lily*.—This is a species of astonishing dimensions; the root is of enormous size; the flower-stalk is sometimes two inches in diameter, and from two to two and a half feet in height, from the summit of which it throws off in every direction various branches precisely of the form and appearance of a chandelier, each supporting one or more flowers. The diameter of this magnificent umbel is from two to two and a half feet, and supports from 30 to 40 flowers, which are crimson, with a stripe through each petal. The appearance of this plant when at its full expansion is extremely grand and striking.

Amaryllis curvifolia, or *Fothergill's Lily*.—This is a most attractive species; the colour of its flowers is of a glittering cardinal scarlet, and being produced in numbers on each stalk, give to it an appearance particularly calculated to excite admiration. I consider its flowers decidedly superior in beauty to the *A. sarniensis*, and it also blooms regularly and profusely.

Note. The whole of the family of *Amaryllis* are bulbs of easy culture. The remainder of the species undescribed have all their peculiar beauties, and form a link producing flowers at all seasons of the year, and requiring less care and attention than almost any other class of plants.

Monsonia.—Of this genus there are three species, all of which produce very beautiful flowers, and have very delicate foliage. They consist of

Monsonia speciosa, or *Splendid Flowered*, with leaves quinate and smooth, and the leaflets bipinnate; the flowers are very large, yellowish white, with a tinge of red, and a dark red and black centre. This is considered a most beautiful plant.

Monsonia filia vel. pilosa, or *Hairy*, with pinnatifid leaves, and cream coloured flowers tinged with red.

Monsonia lobata, or *Broad Leaved*, with foliage less delicate in appearance than the foregoing, and fine flowers.

These all have tuberous roots and half shrubby stems, and

can be readily propagated by dividing the tubers, or by cuttings of the shoots. The tubers can be easily transported to any distance uninjured.

Jasmine.—Of this the author's collection contains about 30 species, and includes every one that has yet been cultivated in the gardens of America or Europe. The general characters of these plants are well known, and the distinctions may be understood by referring to the catalogue. Among the most interesting are the Double Arabian and the Double Duke of Tuscany's Jasmine; both of which are white and of exquisite fragrance; the latter is nearly twice the size of the former.

Myrtle.—These are among the hardiest Green-house plants, and the species and varieties are so well known, that particular descriptions would be superfluous. Those most generally admired are the Double Flowering, the Profuse Flowering, the Broad Leaved, the Orange Leaved, the Bird's Nest, the Three Leaved or Jew's, the Silver Striped, and the Gold Striped. But the most beautiful and rare species is the *Myrtus tomentosa*, from China, with large rose coloured flowers. Its foliage is much admired, and it flourishes and blooms profusely with as little attention as any of the others, and particularly in the winter season.

Lachenalia.—Of this there are many species, nearly all of which bloom during the winter months. They are bulbous roots, requiring little care, and producing abundance of flowers, many of which are exceedingly beautiful: these are bells produced on stalks from six to eight inches high, in the manner of the Hyacinth. They are of various colours, and some of them have from three to four colours most singularly and delicately combined in the same flower. They easily increase from the root in the pots, and flourish with little attention. There are altogether about 30 species.

Ixia.—These have bulbous roots, increase fast in pots, and require little care, except to divide the roots as they become too numerous. The different varieties comprise every possible shade, even including green; and the flowers, which are produced from February to April, form a brilliant appendage to the Green-house.

Oxalis.—These are also bulbs requiring little attention, and becoming very numerous by increase in the pots. Some of the varieties commence blooming during the autumn, and others succeed them throughout the winter and spring months. The foliage varies greatly in shape in the respec-

tive species; the flowers are of every colour, and they form a delightful chain in connexion with the *Lachenalias* and *Ixias* as winter flowering plants.

Antholyza.—The different species of this produce very beautiful flowers from February to April in great numbers, on tall stems of two feet high, in the manner of the *Tuberosa*. They somewhat resemble the *Gladiolus* in form, and are of various colours. The root is a flat cake shaped bulb, increases fast, and needs but little care or attention.

Gladiolus.—There are a number of hardy varieties of this flower, but those requiring the protection of the Greenhouse are far more numerous, include a very great variety of colours and shades, and form a highly interesting collection. They are Cape bulbs, and need no more attention than *Ixias*, &c.

Dahlia.—Of this plant more than 150 varieties are now known, the most of which have double flowers. It is a native of Mexico, whence it was carried to Spain, and from thence was disseminated throughout Europe. The flowers, which are often from five to six inches in diameter, combine probably a greater degree of magnificence than those of any other plant, as they comprise every gradation and shade of colour from the darkest lake to the lightest shades, and every hue but green. The collection of the author contains above 100 varieties, 90 of which are double. They have been selected with great care, and comprise the most brilliant that could be obtained. To attempt a detailed description of them would occupy too much space, and must consequently be omitted. The roots are tuberous, and must be taken up in the fall before the frost has injured them, and should then be placed in boxes filled with sand, or laid in a dry situation during winter. About the first or 10th of April they can be again placed in their situations in the open ground. Here they generally attain to the height of four to seven feet, and sometimes more, and frequently produce from 30 to 40 flowers on the plant at one time. The double varieties are the most splendid and highest esteemed; the single ones, however, possess extremely vivid colours, and many of them have much to excite admiration. This plant, except the circumstance of protecting it from frost in winter, needs little or no care, and its flowers form the pride of the garden from July to November, surpassing all others in their varied and gaudy display.

Lobelia fulgens.—This splendid plant, whose merits are

little known, but which has been for many years in the gardens at Flushing, can be cultivated with the greatest ease. The following practice has been found the most successful:—In October take off the young suckers, and pot them; place them in a common frame till the first of March, then transplant them from the pots to the open ground. The soil selected for this purpose must be very moist, and made quite rich. In case of a drought, a basin should be made around each plant, and kept plentifully supplied with water. By this mode they will be made to grow to the height of five and a half or six feet, and produce in July and August a most magnificent display of scarlet flowers.

GERANIUMS, OR GERANIACEÆ.

Under this head are included, according to the present Botanic arrangement, the following genera:—Geranium, Pelargonium, Erodium, Ciconium, Hoarea, Campylea, Dimacria, Isopetalum, Jenkinsonia, Otidia, and Phytamanthes, all of which were formerly viewed as one genus, and may now be considered under the same general head, well known as the Geranium family. They form (united) a beautiful natural assemblage of plants, comprehending numerous species, herbaceous, suffruticose, and shrubby, all of which somewhat partake of a succulent nature. Those most commonly known as inhabitants of our Green-houses and parlours, are of the division termed Pelargoniums, with flowers resembling a stork's bill; the Erodiums and Geraniums, according to the above arrangement, are nearly all herbaceous plants; the Dimacrias and Hoareas have tuberous roots, and entirely lose their foliage for a part of the year, at which period they can be transported (wrapped in paper) in the same manner as Hyacinth or Tulip bulbs.

A work has been published in London by Mr. Robert Sweet, which beautifully illustrates this delightful class of plants, and contains coloured engravings of above 300 varieties. This work the author of the present Treatise imported at a great expense, from which he made a selection of the most beautiful and interesting, which he has since obtained

from London, and they are now under cultivation at his establishment, and will be found enumerated in his catalogue; and they may consequently be offered with confidence to the public as a collection not to be surpassed in beauty and magnificence.

I will now proceed to describe some of the principal varieties, arranging them under their respective divisions.

PELARGONIUM.

P. striatum, or *Davey's Fairy Queen Geranium*.—This is also called Streak-flowered Stork's Bill; the flowers are prettily striped, and appear early in the spring; the foliage is large, and of a fine appearance.

P. quatermani, or *Quaterman's Splendid*—This has leaves of exceeding large size, and is of very vigorous growth, forming a strong robust plant; the flowers are also exceedingly large, and resemble those of the Commander-in-Chief imported from London: they are of a pale colour, inclining to white, and of great beauty. It was originated about five years since by Mr. Quaterman, who was then foreman of the Green-house department at the author's establishment.

P. ignescens, or *Fierly Flowered*.—The leaves are cordate, and the flowers scarlet and black: they are produced in abundance for the greater part of the year. There are two other varieties, viz. *ignescens-major*, and *coccinea*, which are held in high esteem.

P. blandum—*Blush Flowered*, or *Diana*.—The leaves of this are cordate, and five lobed; the flowers are of a light colour, and appear in succession from April to September.

P. melissinum, or *Balm Scented*.—The leaves of this are deeply five lobed; the flowers dark red and black in abundance. The leaves when rubbed have exactly the fragrance of common Balm.

P. mostynæ, or *Mrs. Mostyn's*.—This has an upright stem with few branches; the leaves are cuneiform and pubescent on both sides, and the flowers are of a fine red. It flourishes with little care, and blooms early.

P. solubile, or *Dutchess of Gloucester's*.—This is also called Dissolvable-coloured, from the circumstance that water will dissolve the colour of its petals; the leaves are kidney shaped; the flowers are large, of a fine deep red, mixed with darker red.

P. multinerve, or *Many Nerved*.—An upright shrub not much branched, the leaves of a roundish kidney shape, and the flowers of a deep red. It is of easy culture, and continues to bloom till late in autumn.

P. eximium, or *Select*.—This has an erect stem with hairy branches, and its growth is strong and vigorous; the leaves are cordate and undulate; the flowers are large, and unite pale and dark shades of red and black.

P. grandiflorum, or *Great White Flowered*.—This has an erect stem but little branched, with smooth glaucous leaves, deeply five to seven lobed. As its name denotes, the flowers are large and white.

P. involucratum maximum, or *Large Bracted*.—The stem is erect, growing to a large size, and but moderately branched; the leaves are cordate, or kidney shaped; the flowers are extremely large and white, with some streaks of purple. It is a thrifty growing plant with fine foliage, and the flowers are among the most beautiful of the whole family. The Waverly Geranium much resembles the foregoing in the splendour, size, and colour of its flowers—the foliage, however, distinguishes it.

P. ornatum, or *Ornate*.—A shrubby stem much branched; the leaves small, broader than long, between cordate and wedge shaped; the flowers have a blotch of pink in the upper petals.

P. flavontium, or *Peacock Spotted*.—The stem shrubby and branching; the leaves wedge shaped at the base, inclining to cordate; the flowers of a fine bright red above, and the lower petals of a pale scarlet. It grows freely, and continues in blossom all summer, and till late in autumn.

P. ardens—*Burnished*, or *Glowing*.—This has a suffruticose thick stem but little branched, the leaves of which are scarcely two alike, cordate, oblong, or ternate; the flowers are small, of a very dark scarlet and black. It is a handsome plant, much admired for the brilliancy of its flowers, and for their being produced during the greater part of the year.

P. ohrulifolium, or *Guelder Rose Leaved*.—It has a shrubby erect stem, with few branches, and cordate, wide, concave leaves, which are five lobed; the flowers are very large, of a deep red, finely streaked with a darker red. It is a free growing plant.

P. echinatum, or *Prickly Stalked*.—The root of this is fleshy, and has tubers; the stem is shrubby, succulent, and

thorny; the leaves cordate, from three to five lobed, and the flowers white, with bright red spots. It loses its foliage entirely for several months in the year.

P. glaucum—*Glaucous, or Lance Leaved*.—A shrubby erect stem, which, as well as its branches, is of rather small and delicate growth; leaves lanceolate, entire, smooth, and glaucous; flowers white and pale yellow spotted with red, which are neat and pretty. It is a plant of rather singular appearance when contrasted with its congeners, and is also apt to be injured if too much watered during the winter season.

P. safflorens, or Frequent Flowering.—A shrubby brown stem, with flat, cordate, five lobed leaves, and red flowers with darker red and black spots. It is a most desirable variety from its remaining so long in flower, and at the most desirable season, for it begins to bloom at the end of summer, and if kept in a warm situation will continue to flower through the winter and spring months.

P. gibbosum, or Gouty.—This is so called from its having large swellings or knots at the joints, which give it a most singular appearance; the branches are erect, or slightly spreading; the leaves ternate, smooth, and glaucous; and the flowers of a greenish yellow colour. It is a curious plant, and esteemed for its fragrance during the evening, although it is scentless during the day.

P. optabile, or Desirable.—A shrubby stem, much branched with rough, cordate, five lobed leaves, and large flowers, which are white blotched with dark purple. It is of easy culture, and makes a compact little bush about 18 inches high.

P. breesianum, or Breese's.—A branching stem, with oval, cordate, slightly lobed leaves, and fine deep red flowers, varied with white and dark red spots and lines. It grows well with little care, and flowers freely for the greater part of the year.

P. imbricatum, or Imbricate Petaled.—This has a shrubby flexuose stem, irregularly swollen at the joints; the leaves are nearly trifid, curled, and plaited; the flowers are produced in large heads, the petals obtuse, white round the edges, and dark red in the middle. It is a strong growing plant, and produces abundance of flowers during summer, and until late in the autumn.

P. cordatum, or Heart Leaved.—A shrubby erect plant, with few branches; the leaves flat, cordate, acute, and den-

tate; the flowers large, purplish red with dark streaks, and produced in clusters. It is a very free growing plant. There is a variety called *cordatum-major*.

P. australe, or New-Holland.—This has a short stem, with numerous hairy branches, and cordate leaves with large unequal crenatures; the flowers white and bright red in streaks. It is a neat little plant, flowering and ripening its seeds abundantly.

P. fulgidum, or Fulgent Celandine Leaved.—A shrubby flexuose stem, with few branches; the leaves ternate, and leaflets sessile, deeply toothed, and pinnatifid; the flowers small, of a deep scarlet, with dark spots and lines: the flower is one of the most brilliant of the genus. The plant being rather succulent, requires care not to water it over much.

P. coarctatum—Lavalettes, or Close Leaved.—A shrubby much branched stem, with numerous crowded leaves of a cordate or kidney shape; the flowers are large, deep red striped with black. Its culture is easy, and it is a pretty plant.

P. sanguineum, or Crimson.—This has a shrubby succulent stem, not much branched, and knotted at the different joints; the leaves decomposed, smooth, and of a light green; the flowers of a deep scarlet or blood colour marked with black. It is quite a rare variety.

P. versicolor, or Various Coloured.—A shrubby branching stem, with flat, cordate, five lobed leaves, and large flowers, whose colour is of a dark and light red streaked with red and black. It grows freely, and flowers abundantly.

P. macranthon, or Large Flowered.—This has a flexuose stem, with large leaves, hairy on both sides, reniform, and deeply toothed; the flowers are extremely large and splendid, being white finely striped and blotched with purple. It is one of the largest flowering of the whole genus.

P. baileyianum, or Bailey's.—A branching stem, with kidney shaped truncate leaves and large flowers, which are white and dark brown. It flourishes with but little attention, and blooms freely.

P. husseyanum, or Lady Hussey's.—This is also called Brown's Duke of York. It has a branching stem, with dark green cordate lobed leaves and fine large dark red flowers. It is a strong and robust plant, flowering abundantly all the summer.

P. scutatatum, or Shield Leaved.—A very branching stem, with peltate five lobed leaves and large white flowers finely marked with red. It is a handsome plant, and was reared from seeds brought from the Cape of Good Hope.

P. difforme, or Various Leaved.—This is also called Davy's Princess Augusta. It has a shrubby much branched stem, with rigid, deformed, cordate, or cuneate leaves, and large petaled flowers striped and blotched with dark red and brown. It is a hardy plant, easily managed, and requires very little water during winter.

P. concinnum, or Comely.—This has a branching stem, with truncate, trifid, undulate leaves, and fine scarlet flowers, marked with a darker streak of the same colour and with black lines. It is of low growth, but flowers abundantly.

P. scarborovæ, or Countess of Scarborough's.—This has a shrubby branching stem, with small subtrifid or deeply three lobed leaves, and fine dark and light red and white flowers. It blooms early in spring and late in autumn, and has a lemon-like scent.

P. formosum, or Variegated Flowered.—This has a branching stem, with roundly cordate, undulate, concave leaves, and a large head of dark and pale red flowers. It is a hardy free flowering kind, and blooms from spring to autumn.

P. candidum, or Fair Flowered.—This has a branching stem, with cordate three lobed leaves, and large white flowers, marked with red. It is a pretty plant, and an abundant bloomer.

P. watsoni, or Watson's.—The stem of this is not much branched; the leaves are roundly cordate and five lobed, and the flowers are large, red, marked with dark and brownish red. It is a pretty plant, and an abundant bloomer till late in autumn.

P. hoareaeflorum, or Hoarea Flowered.—This has a tuberous root and subcaulescent leafy stem, which is succulent; the leaves are radiate, pinnate, and canescent, and the flowers deep red marked with black. It is a curious and handsome hybrid, requiring the same culture as is given to the other tuberous species.

P. spectabile, or Showy.—This has an erect branching stem, with cordate, undulate, deeply toothed leaves, and bright red flowers marked with darker red. There are several varieties of this species, all of which are splendid plants, and of easy culture.

P. principissæ, or Princess Charlotte.—This has an erect

stem, with cordate, reniform, slightly lobed leaves, and dark red flowers marked with black blotches and lines. It is a beautiful plant, rather tender, and suffering more from too much wet than from cold.

P. potteri, or *Potter's Scarlet*.—A shrub with a rather succulent branching stem, and leaves slightly cordate, deeply three cleft, and many nerved; the flowers are of a deep scarlet, finely marked with black. It is apt to lose its foliage in winter if not kept in a warm and dry situation; but in summer, as Mr. Sweet observes, it grows very luxuriantly, and its flowers are much finer when growing out in the open air, and continue to expand till late in autumn.

P. robinsoni, or *Robinson's*.—This forms an erect stem, with very large leaves four or five inches long and wide, cordate, acute, and undulate; the flowers are large, pale red, with marked blotches and veins of a darker red. It is of robust growth, and prolific in its flowers.

P. jenkinsoni, or *Mr. Jenkinson's*.—This is also called at London the John Bull Geranium. The stem is branching, with rigid, roundly cordate leaves, and pale red, white, and very dark purplish red flowers. It is an elegant free growing plant, and blooms profusely.

P. crenulatum, or *Crenulated Leaved*.—This has an erect stem, but little branched; the leaves are large, reniform, and notched with small rounded teeth; the flowers are large, of a purplish red, shaded and veined with darker colours.

P. murrayanum, or *Lady Murray's*.—An erect branching stem, with large broad cordate leaves, and fine red flowers marked with darker red or brown. It is a handsome strong plant, flowers abundantly, and continues to bloom the greater part of the year.

P. tomentosum, or *Peppermint Scented*.—This is often called in this country Velvet Leaved, but in England it is also called Pennyroyal Scented, which title is here applied to a very different one. The present species has a shrubby thick succulent stem, much branched, and is of rather straggling growth; the leaves are cordate, five lobed, and have the softness of velvet to the touch; the flowers white and purple, and of small size. It has been long in cultivation, and is an original species, obtained from the Cape of Good Hope.

P. fragrans, or *Nutmeg Scented*.—This has an erect stem, very much branched, but the shoots are all of moderate thickness, and form a neat and bushy plant of medium size;

the leaves are small, roundly cordate, and three lobed; the flowers small and pale, tinged with blue. It continues to bloom the greater part of the year, and is highly esteemed for its fragrance. By some it is called Spice Geranium.

P. flexuosum, or Zig-zag Stalked.—This has a flexuose shrubby stem, with oval, cordate, and deeply incised leaves, which are also nerved; the flowers are deep scarlet and black. It is a beautiful hybrid, originated by Mr. Colvill, of London, and flowers a great part of the winter. It needs but a moderate supply of water. For a plant of this the author paid a guinea at London.

P. atrofusum, or Dark Brown Flowered.—This has a branching stem clothed with long hairs; the leaves are wedge shaped, with short foot-stalks; the flowers of a dark or purplish brown, marked with a still darker brown. It is a free growing plant, and flowers abundantly.

P. carduifolium or Cockle-shell Leaved.—This has a branching stem, growing to a great size, with large rigid leaves, wedge shaped at the base, and large red and black flowers. It is a very showy plant, and easy of cultivation.

P. reniforme, or Kidney Leaved.—This has a stem with succulent branches and small kidney shaped leaves; the flowers are of a deep red colour. It is valued for flowering late in autumn when most of the showy kinds have past their bloom.

P. tyrianthinum, or Royal Purple.—This is also called the Princess of Denmark Geranium. It has a stem much branched, with flat cordate leaves, which are five lobed; the flowers are large, and of a bright rosy purple colour. It is easy of culture, and blooms abundantly.

P. erectum, or Upright.—This has a suffruticose erect stem, with cordate, jagged, lobate leaves, and rosy and white flowers. It is succulent, and requires but little water.

P. pulchellum, or Nonsuch.—A short succulent stem with oblong sinuate leaves, and pale whitish flowers with streaks of red. It is a native of the Cape of Good Hope, and flowers from March to May, and should be but sparingly watered when the season of bloom is over.

HOAREA.

H. nutans, or Nodding Flowered.—This has a tuberous carrot-like root, with foliage resembling that of the same vegetable; the flowers are pale yellow. It may be considered as one of the most easily cultivated of its genus.

H. radicata, or Fringed Leaved.—This has oblong elliptic entire leaves, which are hairy; the flowers are yellow. If kept in a warm situation it begins to grow about Christmas, when it should be re-potted with fresh soil, and have a moderate watering occasionally.

H. corydatiflora, or Fumitory Flowered.—This has a tuberous root, from which rises a cluster of pinnate hairy leaves; the flowers are small, and of a pale yellow colour.

H. atrosanguinea, or Dark Crimson.—The leaves rise on the root in a radiate manner: they are pinnatifid and hairy; the flowers are small, and of a dark red colour. All of the Hoareas here described are stemless.

DIMACRIA.

D. sulphurea, or Sulphur Coloured.—This has a tuberous branching root, with erect pinnate carrot-like foliage, and a head of sulphur coloured flowers. It is of free growth, and blooms abundantly.

GERANIUM.

G. wallichtanum, or Wallick's Nepal.—This is a perennial with spreading branches and trifid leaves, which are reticulately veined; the flowers are of a fine deep red, and striated.

G. anemonifolium, or Anemone Leaved.—This has divided leaves resembling the plant from which it receives its specific title; the flowers are pretty, but not particularly showy.

JENKINSONIA.

J. quinata, or Quinate Leaved.—This has a shrubby flexuose stem, and the branches covered with a powdery pubescence; the leaves are alternate and five parted, and the flowers yellowish white marked with red. It is a handsome, rare, and curious plant, requiring the warmest part of the Green-house. It grows best in a mixture of loam, peat, and sand.

CAMPYLEA.

C. cana, or Hoary Leaved.—This has a shrubby erect branching stem, with roundly ovate obtuse leaves, and pale red flowers, which are as large as any of the genus.

C. blattaria, or Downy Leaved.—This has a shrubby branching stem, with rounded oval plaited leaves, and pur-

ple and white flowers. It blooms at an early period in the spring, and continues flowering until late in autumn.

CICONIUM.

C. reticulatum, or Netted Veined.—This has a shrubby stem with few branches; the leaves cordately uniform, obtusely five lobed, and strongly marked with a zone; the flowers are of a fine deep scarlet, veined with a darker colour. It is easy of culture, and flowers profusely.

C. cerinum, or Waxed Leaved.—A shrubby-erect stem, with roundly uniform leaves, and deep red and paler flowers, having an airy appearance. It is of a succulent nature, and must not be over watered. In other respects it is of easy culture.

There are numerous other splendid varieties of the different divisions of the Geranium family, but the limits of this work will not allow me to describe them; among which are the *Pelargonium nervosum, jonquillinum, paucidentatum, &c. &c.*

Cactus.—Of this genus there is an immense number of species, forming a family of succulents of very peculiar characters, many of which produce extremely beautiful flowers. The most common is *C. flagelliformis, or Creeping Cereus*, which has fine rose coloured flowers. There are also *C. speciosus*, with large showy flowers of a rose colour; and *C. triangularis*, producing a great number of beautiful flowers. But the most interesting are *C. grandiflorus, or Great Night Blooming Cereus*, with very large yellow flowers; and *C. speciosissimus*, which latter exceeds all others; the flowers of this species are of the most superb velvet crimson, and measure five inches or more in diameter. In fact, the flowers far exceed every other species in magnificence. The culture of this genus is not difficult—they require a warm situation, and to be but little watered in the winter season; and the most of them may be propagated from cuttings with ease.

Clematis florida, or Great Jahan Virgin's Bower.—The flowers of this exceedingly fine species are white, and very large. They expand during the summer months, and are produced on peduncles springing from almost every joint of the long and delicate shoots of this vine, and give to it a great degree of beauty. These shoots may be trained to the

length of 12 or 15 feet over a lattice or bower, and in winter can be taken down and formed in a coil, and be covered by a common frame or box, with the earth raised around it, which I have found sufficient protection for it during the winter months. Indeed, this is by far the preferable mode of treating it; as in a pot it is stunted in its growth, whereas in the open ground it attains to a full development. There is a single and a double variety, the latter of which is far the most beautiful.

Broad Leaved Candy-tuft, Iberis semperflorens, a native of Sicily; flowering in white umbels all the year.

I. gibraltaria, Gibraltar Candy-tuft, a native of Spain; flowering in May and June.

These are ornamental little evergreen shrubs, and admired for their delicate tufts of white flowers, which are produced on the first sort throughout the winter in the Green-house. They thrive in a light soil, and are readily increased by cuttings in the same soil under a hand-glass.

Pittosporum coriaceum, Thick Leaved Pittosporum, a native of Madeira, flowering in May; the flowers are white.

P. viridiflorum, Green Flowered Pittosporum, a native of the Cape of Good Hope; flowers in May and June.

P. tobira, Glossy Leaved Pittosporum, a native of China, a hardy Green-house plant; flowers from March to August.

P. undulatum, Wave Leaved Pittosporum, from New-South-Wales; flowers from February to June.

P. revolutum, Downy Leaved Pittosporum, from New-South-Wales; flowers from February to April.

All these are hardy evergreen Green-house shrubs of pleasant fragrance, and easily cultivated in sandy loam. They are increased by laying or grafting on each other, or by cuttings of young wood planted in sand, and covered with a bell-glass.

Chinese St. John's Wort, Hypericum monogynum, a beautiful little shrub, producing its large yellow flowers through most of the winter and summer. It is easily increased by dividing the roots.

Correa alba, White Flowering Correa, a native of New-South-Wales; flowers from April to June.

C. virens, Green Flowered Correa, from New-South-Wales; flowering from November to May.

These are handsome and very hardy plants. They grow in loamy soil, and are increased readily by seeds or cuttings.

Phyllica ericoides, Heath Leaved Phyllica, a small heath-

like shrub from the Cape; flowering from September to April in a warm Green-house. It grows in sandy peat, and is propagated in the same manner as heaths, but with much less trouble.

Eutaxia myrtifolia.—This is a pretty New-Holland shrub, flowering from March to June. It grows in sandy loam and peat, and as it grows fast and tall, should be cut in to form it into a bushy shrub. Young cuttings root in sand under a glass.

Kennedia rubicunda, coccinea, prostrata, and monophylla, are New-Holland shrubby twiners, flowering from March to August.

Coronilla juncea, glauca, and valentina, are showy yellow flowered shrubs from the south of Europe, flowering the greater part of the year, and growing in any sandy soil.

Azalea indica, an Indian shrub of great beauty and fragrance. It grows in sandy turfy peat well drained, and requires a warm part of the Green-house.

Epacris grandiflora.—Among the numerous shrubs imported from New-Holland there is none more admired than this. Its appearance is delicate and yet showy; its slender branches are bent over with the weight of the flowers, which set so close the whole length that they almost touch each other: they are of a tubular bell shaped form, of more than an inch in length; the tube is of a bright purplish crimson, and the extreme end of each flower is of a pure white. It flowers all winter and nearly all the summer, and has some resemblance to a heath. It grows in a turfy, sandy peat soil, and is propagated by cuttings in sand under a bell-glass.

Ligustrum lucidum, the Wax Tree of China.—This grows in sandy loam, and is readily increased by cuttings. Its foliage is very fine.

Mimulus glutinosus, a shrub from California; it flowers all the year, and is of the easiest culture on any light rich soil.

Maurandia semperflorens, an ornamental climbing shrub from Mexico, of easy culture, and does not exceed due bounds in a Green-house.

Laurus camphora, glauca, indica, fistens, canariensis, barbonia, and carolinensis, evergreen shrubs, which grow in loam and peat, and cuttings root in sand under a bell-glass, or a moist heat. The first, *Laurus camphora*, is the tree from which camphor is manufactured; and from information I have had respecting a tree of this kind growing in

Georgia, I am led to believe it may be advantageously cultivated in that and the more southern states, as it was found uninjured by the severest frosts experienced there. It forms a tree of very large size in India: Its leaves, as well as the wood and roots, are strongly impregnated with the fragrance of camphor.

Ficus cordata, macrophylla, australis, elastica, stipulata, fumila, capensis, bengalensis, religiosa, and other species, are trees, shrubs, and creepers or climbers, of the easiest culture and propagation in any light rich soil.

Hemantus coccineus, and various species, are Cape bulbs, which grow in sandy loam with a little peat; they require no water when not in a growing state, and are increased by offsets.

Brunsvigia josephinae, and different species, are a beautiful family of bulbs, some of which grow to a great size, and require large pots to have them flower in perfection. They grow in sandy loam with a little peat, and require ample supplies of water when in a growing state, but very little when dormant. They are increased by offsets or seeds.

Agapanthus umbellatus, praecox, &c., handsome plants, which thrive in loam with a little rotten dung, and are increased by dividing at the root. There is a variety with flowers nearly white, and one with beautifully variegated leaves.

Veltheimia viridifolia, and glauca, Cape bulbs, which grow in light loamy soil, and are increased by offsets or leaves.

Eucomis regia, undulata, punctata, and striata, Cape bulbs, which grow in any light rich soil, and are increased by offsets, seeds, or leaves.

Sowerbæa juncea, a New-Holland perennial, which grows in peat soil kept moist, and is increased by dividing at the root.

Dianella cœrulea, and divaricata, plants of New South-Wales, which grow in loam and peat, and are increased by dividing at the root.

Astrœmeria pelegrina, and ligtu, fine plants, which grow in loam and leaf mould, and are increased by dividing at the root or by seeds, which, as they speedily lose their vegetative power, should be sown as soon as ripe.

Calla æthiopica may be treated as an aquatic, and grown in deep water in pots of rich loam, or it will grow in loam and peat on the common stage of the Green-house. It is increased by offsets.

Arum crinitum, maculatum, corsicum, tenuifolium, ternatum, and orisaurum, frume herbaceous plants, which grow in sandy loam, and are increased by suckers or dividing at the root.

Nandina domestica, a Chinese garden shrub, said to produce fruit. It grows in loam and peat, and young cuttings root in sand under a bell-glass.

Crowea saligna, grows in sandy peat and loam, and is increased by young cuttings in the same soil.

Dionæa muscipula—*Venus' Fly-trap*.—This plant thrives best when planted in a pot of moss with a little earth at the bottom, and the pot placed in a pan of water, and shaded from the meridian sun. Leaves slipped off, and planted in moist moss, will root and become plants.

Erica, or Heath.—This genus comprises natives of different countries, but most of the fine varieties are from the Cape of Good Hope and its vicinity. Some of the species are in flower all the winter, a few regularly blossom in March and April, and a great variety in every month to November inclusive. The flowers of most of them are small, delicate, and bell shaped; others long and tube shaped, of all shades of pink and purple; others white, yellow, orange or scarlet, and being produced in great profusion over the whole plant, intermixed with the most delicate foliage of the finest green of various shades, according to the species or variety, causes them to be justly admired as some of the most pleasing ornaments of the Green-house. They have in England four or five hundred species and varieties, the most of which are figured in Andrews's *Heathery*, and many of them in the *Botanic Magazine*. Heaths are so difficult to transport over sea, that only about fifty kinds have been received alive in this country, but many have been reared from seeds.

The only soil in which Heaths will grow is earth of peat— if any substitute can be found it is leaf mould sifted very fine, and mixed with fine sand; or bog earth from a swamp where there is turf used as fuel, taken out in the summer when the swamps are free from water, and laid in heaps to drain; and at the commencement of winter spread thin about a foot in depth, that the frost may penetrate through and decompose it; in the spring have it turned over and made fine; and if it is found not to contain sufficient sand, it will be necessary to add some fine sand to it, and have it well incorporated together: fine sand of any colour will answer, provided it be free from iron impregnations. This sand admits the water to penetrate into the soil and reach the roots of the plants,

and also to drain away from the roots so as not to rot them. The climate for Heaths is not required to be warm during the winter; if the frost is excluded, that will be enough. Some species are so hardy that they will bear considerable frost without injury. They require air and light in the Green-house. Heaths are propagated by cuttings and seeds, and a few kinds by layers.

Cobaea scandens.—This is a most vigorous climber, with large purple flowers, and is in bloom all summer. Great care must be taken to keep it within bounds, otherwise it will overrun every thing in the course of one season. It has been known to grow at the rate of a foot a day for upwards of two months together. The best method to show it to advantage is to plant it in the open ground early in May, and let it run on a long fence or trellice, which it will soon cover over, and produce its flowers in abundance.

Hoya carnosae.—This has red and white flowers in June and July, with the odour of honey. It is frequently called the Wax Flower, as it has the appearance of wax-work. It is a most singular plant both in its foliage and flowers. The leaves are of a rich green, very thick and firm. It requires a warm Green-house, and as it is a climber, should be trained up the rafters where there is a glass roof to the Green-house. It is propagated by layers and cuttings.

Astrapha wallichi, or *Wallack's Splendid Astrapha*.—This is one of the most rare and splendid plants ever introduced to our country. It is a native of Mauritius, and has been but recently brought into notice, and belongs to the class *Monadelphica*, order *Dodecandria*. The leaves are of a circular form, and of very large size; and on a plant now but two and a half feet high, measure ten inches in diameter. The flowers are produced on long pendant peduncles, which hang with a graceful curve from the axils of the leaves; the buds, previous to expansion, resemble those of the common Holyhock, except that they are much larger. The flower when open has exactly the form of a tassel, such as is usually suspended to window curtains, and the long peduncle which supports it bears a striking resemblance to the cord which is attached to a tassel. In fact, the similarity is so great in both respects, that I think this plant may most appropriately be termed the *Tassel Flower Tree*. Each of its flowers is composed of numerous scarlet florets, with bright yellow stamens projecting beyond the petals, which give to the outer part of the flower the appearance of fringe; and these

florets are so closely set, that the whole united appear like one large double flower—the *tout ensemble* is both unique and magnificent. This plant has been generally sold in Europe at the price of ten guineas, and the author received one, as a favour, at about half that sum. I am not aware that any other person in our country has gone to the expense of importing this rare plant; but Mr. Hobbs, the superintendent of the Green-house department at the author's establishment, has already reared one fine plant from the original one, and will doubtless soon have several others in successful progress.

Cheirostemon platanoides, or *Mexican Hand Flower Tree*.—The flowers of this shrub, or which in Mexico forms a small tree, are of such peculiar structure, and have been so long objects of great notoriety, that they have been sent throughout the world preserved in bottles of alcohol, and have been deemed among the most curious appendages to scientific collections, museums, &c. A tale was formerly told as an accompaniment to the flower, that but one tree existed, &c.; but since the intercourse with the cidevant Spanish provinces has been opened, the fiction has vanished, and this most interesting plant has been transported to various foreign climes. Like most other Mexican plants, it will flourish in a Green-house or warm parlour with but moderate attention.

Phormium tenax, or *New-Zealand Flax*.—This plant, of but modern introduction, seems likely at no distant period to form an article of commercial importance. It thrives in any rich light soil, and is readily increased by offsets from the root. Already it has been found to mature its seeds at Cherbourg and Toulon, in France, and hence it is conjectured that it may be cultivated with success in a great part of that country. It would without doubt succeed by open culture in South-Carolina, and localities further south, and perhaps in North-Carolina and Virginia; and would constitute a very important substitute for hemp.

Fuchsia.—Of this genus ten varieties are now cultivated in our Green-houses, all of which are natives of Mexico and South-America but one, and that is from New-Zealand. The *F. coccinea*, or *Scarlet Flowering*, often called the Eardrop, is so old an inhabitant of our rooms and Green-houses, that it is familiar to almost every one—and the same general characters, as to formation of the flowers, pervade all the other species in a greater or less degree. The most beautiful in point of foliage is the *arborecens*, which attains to a larger

shrub than either of the others, and has large broad laurel shaped leaves. The *gracilis, tenella, macrostemma, excorticata, ovata, lycioides, serratifolia, and virgata*, form the residue of this interesting group, and serve to cheer us with their neat and beautiful flowers and varied foliage. They are of easy culture from cuttings, and should be but moderately watered.

Conclusion.—I have now completed my remarks as far as the limits of the present work would authorize, and which in fact have been extended much beyond what was at first anticipated. That some inadvertent errors may have escaped the author's notice is very probable; and if apprized of them, they will be corrected in a subsequent publication, and he will receive with pleasure any *new light* which may be thrown on the subjects herein discussed. At present he is only apprized of the following:—At page 56, the *Warrenton Grape* is stated to be a *native*; but the author's *personal observations* since have convinced him, that it is either an *exotic* grape, or a seedling from one of that description, and not a genuine native; and, in regard to the *Golden Chasselas*, and *Chasselas de Fontainbleau*, recent publications state them to be identically the same as the well known *White Muscadine*, or *Early Sweet Water*. I have only to add, that since my statement was printed (at page 7) respecting the "*Menagere*" Apple, a gentleman on the Rhine has informed me, that its weight is from half a pound to three-quarters, and although it is considered as the largest of their apples, it falls far short of many American varieties.

To his various friends and correspondents the author tenders his warm acknowledgments for the information freely imparted to him when solicited, and also for such as has been gratuitously tendered to him. Such testimonials of the approbation of his fellow-citizens, and of their estimation of his exertions in behalf of a science, the advancement of which has been his favourite pursuit through life, cannot fail to be peculiarly gratifying; and it is with sensations of both pleasure and pride that he contributes his mite to the general welfare of our happy and prosperous Republic.



